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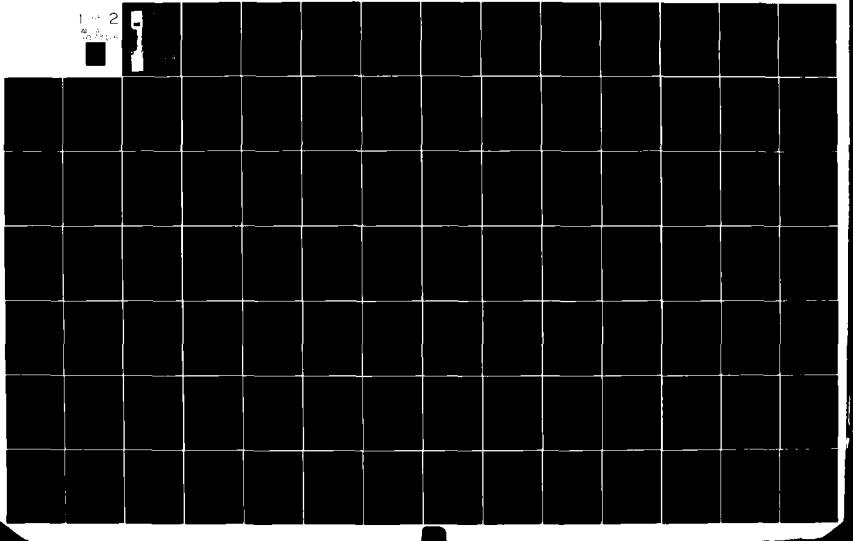

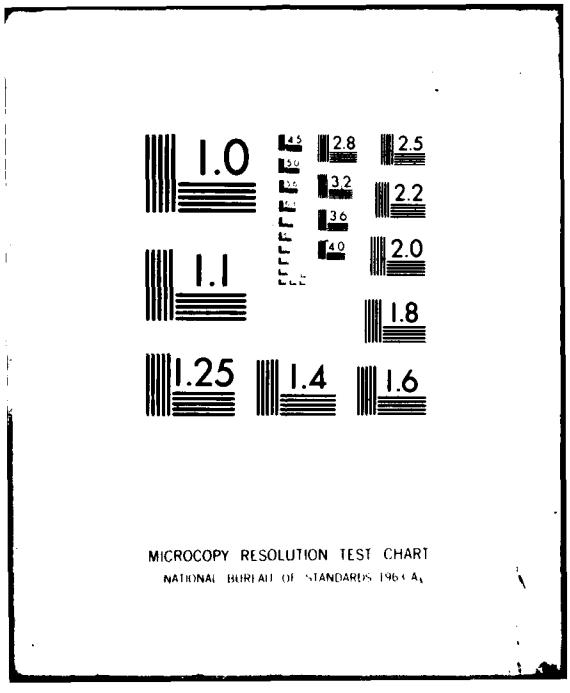
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20. ABSTRACT

This is the Soviet Laser Bibliography for October-December 1976 and is No. 26 in a continuing series on Soviet laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; crystal growing; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications; beam propagation; computer technology; holography; laser-induced chemical reactions; instrumentation and measurements; beam-target interaction; and plasma generation and diagnostics.

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BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

No. 26

OCTOBER - DECEMBER 1976

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Vice Director for Production
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This document was prepared for the Defense Intelligence Agency under an intragovernment agreement. It is intended to facilitate access of government researchers to Soviet laser literature.

Comments should be addressed to the Defense Intelligence Agency, Directorate for Scientific and Technical Intelligence, ATTN: DT-1A.

Introduction

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Soviet-bloc developments in the quantum electronics field. It resumes the bibliography series on Soviet laser developments published until recently by Informatics Inc., Rockville, Maryland. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Russian Reference Journals are included, as well as entries from the CIRC data base not otherwise covered. Laser items from the popular press are generally omitted.

The period covered is the fourth quarter of 1976, and includes all significant laser-related articles received by us in that interval. The subject organization has been slightly altered, based on user feedback, as follows: (1) Under Section IC, Gas Lasers, ring lasers have been removed and will be included under Section IIG, Miscellaneous Measurements Applications; (2) A new subsection on excimer lasers will be added to Section IC when entries appear; (3) In Section IIB, Communications, the Beam Propagation subsections have been removed and made a separate category, IIC; (4) A new section following Monographs has been added listing currently available translations of laser articles.

For convenience we have abbreviated frequently cited source names; a source abbreviations list and an author index are included. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry (RZh, KL) indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library. The authors' affiliations are indicated by the numbers in parentheses following the authors' names in the text and are listed in the Author Affiliations List. New affiliations are assigned a new number and are added to a cumulative list which includes all affiliations from 1969 to the present. Only those affiliations which appear in this issue are listed in this issue's Author Affiliations List.

Starting with the next issue, this bibliography is scheduled to appear bimonthly, rather than quarterly as in the past.

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1. Crystal: Ruby

1. Belova, G.N. (21). Generation in a ruby laser with an ultrasonic surface wave on the resonator mirror. KE, no. 10, 1976, 2272-2278.

2. Dabu, R.(NS). Solid-state laser in a giant pulse regime under double Q-switching. Studii si cercetari de fizica, v. 28, no. 6, 1976, 601-615. (RZhF, 12/76, 12D959).

3. Kovalenko, Ye.S, G.A. Kolchina, and V.A. Laptev (251). Effects of nonuniform gain in ruby lasers. IVUZ Fiz., no. 10, 1976, 92-97.

2. Crystal: Ho^{3+}

4. Morozov, A.M., M.V. Petrov, V.P. Startsev, A.M. Tkachuk and P.P. Feofilov (0). Luminescence and stimulated emission from holmium in yttrium and erbium oxyorthosilicate single-crystals. OiS, v. 41, no. 6, 1976, 1086.

3. Semiconductor: Simple Junction

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5. Krasavina, Ye.M. and I.V. Kryukova (141). Study of degradation processes in CdS lasers under e-beam excitation. KE, no. 11, 1976, 2475-2477.

b. GaSb

6. Kryukova, I.V. and Yu.V. Petrushenko (141). Spectral and output characteristics of GaSb lasers with e-beam pumping. KE, no. 10, 1976, 2205-2214.

c. InAs

7. Akimov, Yu.A., Ye.B. Bendovskiy, A.A. Burov, Ye.A. Zagarinskiy, Yu.V. Klevkov, I.V. Kryukova, V.I. Leskovich, B.M. Stepanov, and V.A. Chapnin (141). E-beam pumped semiconductor lasers using InAs and $Pb_xSn_{1-x}Se$. KE, no. 10, 1976, 2302-2303.

d. InP

8. Zverev, L.P., I. Ismailov and S.A. Negashev (215,43). The effect of a strong magnetic field on emission from an InP injection laser. KE, no. 11, 1976, 2511-2513.

e. PbSe

9. Tovstyuk, K.D., G.V. Plyatsko, V.B. Orletskiy, S.G. Kiyak, and Ya.V. Bobitskiy (303, 385). Formation of p-n and n-p junctions in semiconductors by laser radiation. UFZh, no. 11, 1976, 1918-1920.

f. ZnS

10. Vlasenko, N.A. and Zh.A. Pukhliy (0). Stimulated emission in thin-film ZnS-Mn structures under excitation by an electrical field. IN: Sb. 1 3-27. (RZhRadiot 12/76, 12Ye96)

4. Semiconductor: Mixed Junction

11. Adkhamov, A.A., I. Ismailov, and I.M. Tsidulko (215). Temperature dependence of the threshold current of Ga (PAs) injection lasers. DAN Tadzh, no. 9, 1976, 19-22.

12. Britov, A.D., S.M. Karavayev, G.A. Kalyuzhnaya, Yu.I. Gorina, A.L. Kurbatov, K.V. Kiseleva, and P.M. Starik (0). Laser diodes based on PbSnTe in the 5-15 μ region. KE, no. 10, 1976, 2238-2242.

13. Dolginov, L.M., L.V. Druzhinina, Ye.M. Krasavina, I.V. Kryukova, Ye.V. Matveyenko, Yu.V. Petrushenko, S.P. Prokof'yeva, V.P. Tsyganov, and Ye.G. Shevchenko (141). Spontaneous and stimulated emission from solid solutions of $Ga_xIn_{1-x}As$, $GaAs_xSb_{1-x}$ and $Ga_xIn_{1-x}As_{1-y}P_y$. KE, no. 11, 1976 2490-2494.

14. Dubrov, V., and N. Shokhudzhayev (0) Semiconductor injection lasers based on InP_xAs_{1-x} solid solutions. IN: Sb. 2, 183 (RZhRadiot, 10/76, 10Ye94)

15. Tsidulko, I.M. (0) Temperature dependence of the threshold current of a semiconductor laser based on (GaAl)As or Ga(AsP). IN: Sb.2, 186-187 (RzhRadiotekh, 10/76, 10Ye88)

5. Semiconductor: Heterojunction

16. Alferov, Zh. I., S.A. Gurevich, N.V. Klepikova, V.I. Kuchinskiy, M.N. Mizerova, and Ye. L. Portnoy (0) Waveguide lasers based on heterostructures with second-order distributed feedback. IN: Sb. 3, 333, (RZhRadiot, 10/76, 10Ye91).

17. Britov, A.D., N.A. Penin, S.M. Maksimovskiy, S.M. Karavayev, I.P. Revokatova, A.L. Kurbatov, I.S. Aver'yanov, B.P.Pyregov and V.A. Myzina(0). Tunable $Pb_{1-y}Sn_ySe$-PbSe heterolaser. KE, no. 11, 1976, 2513-2515.

18. Lamanov, A.L. and Yu.V. Popov (0). Temporal inhomogeneity of the near radiation field of injection heterolasers under SHF amplitude modulation. KE, no. 11, 1976, 2452-2454.

6. Semiconductor: Theory

19. Kurbatov, L.N., G.N. Romanov, I.M. Froymson, and S.S. Shakhidzhanov (0). New optical circuits for semiconductor lasers. DAN SSSR, v.230, no. 5, 1976, 1081-1084.

20. Sinyavskiy, E.P. (44). Impurity absorption of light in a magnetic field during resonant laser radiation. FTT, no. 9, 1976, 2669-2671.

7. Glass: Nd

21. Batygov, S.Kh., Yu.K. Voron'ko, B.I. Denker, A.A. Zlenko, A.Ya. Karasik, G.V. Maksimova, V.B. Neustruyev, V.V. Osiko, V.A. Sychugov, I.A. Shcherbakov and Yu.S. Kuz'minov (1). Physical-chemical, spectral-luminescent and laser studies of phosphate glasses with a high neodymium concentration. KE, no. 10, 1976, 2243-2247.

22. Belyayev, V.N., N. Ye. Bykovskiy, Yu.V. Senatskiy, and B.V. Sobolev (1). Formation of absorptive layers by transmitted radiation in the optical medium of an Nd laser. KE, no.10, 1976, 2286-2289.

8. Glass: Miscellaneous

23. Galant, Ye.I., V.N. Kalinin, S.G. Lunter, A.A. Mak, A.K. Przhevuskiy, D.S. Prilezhayev, M.N. Tolstoy and V.A. Fromzel' (0). Lasing in ytterbium and erbium glasses under laser pumping. KE, no. 10, 1976. 2187-2196.

B. LIQUID LASERS

1. Organic Dyes

a. Rhodamine

24. Aristov, A.V., D.A. Kozlovskiy, D.I. Stasel'ko, V.L. Strigyn and A.S. Cherkasov (0). Spatial coherence of lasers using rhodamine 6G solutions with lamp pumping. OiS, v. 41, no. 4, 1976, 674-677.

25. Cheremiskin, I.V., and T.K. Chekhlova.(0)Some radiation characteristics of a thin-film ring laser. IN: Sb. 3, 344, (RZhRadiot, 10/76, 10Ye120)

26. Lebedev, S.A., V.A. Kizel' and B.Ya. Kogan (118). Characteristics of stimulated emission from a rhodamine 6G solution under internal reflection conditions. KE, no. 11, 1976, 2446-2447.

27. Nenchev, N.M. (NS). Stabilization of the emission parameters of optical dye lasers. Elektroprom-st i priborostroene, 1976, 11, no.4, 145. (RZhRadiot, 12/76, 12Ye74).

28. Zabiyakin, Yu. Ye. (7). Dye laser with enhanced radiation directivity. OMP, no. 12, 1976, 23-25.

b. Miscellaneous Dyes

29. Abakumov, G.A., L.T. Makarova and A.P. Simonov (122). Threshold of generation in viscous active media with controlled absorption at the generation wavelength. KE, no.11, 1976, 2337-2343.

30. Derkacheva, L.D., V.A. Petukhov and Ye.G. Treneva (0). Duration of the excited state of cyanine series dyes. OiS, v. 41, no. 6, 1976, 971-977.

31. Heumann, E., and W. Triebel (NS). Shortening the duration of nanosecond optical pulses due to absorption from excited states. Experimentalle Technik der Physik, v. 24, no. 2, 1976, 167-171. (RZhF, 12/76, 12D1062).

32. Il'chishin, I.P., Ye. A. Tikhonov, M.T. Shpak, and A.A. Doroshkin (5). Stimulated emission by organic dyes in a nematic liquid crystal. ZhETF P, v. 24, no. 6, 1976, 336.

33. Kechkemeti, I., L. Kozma, B. Rats, Zh. Bor, and M.M. Loyko (3). Lasing of binary solutions of 7-diethylamine-4-methylcoumarin and trypaflavine under pulsed laser radiation excitation. KE, no. 10. 1976, 2282-2284.

34. Tomin, V.I., V.A. Zhivnov, and I.Yu. Rumyantsev(0)Pumping of excited electron states of dye molecules by means of electrochemical reactions. IN: Sb. 4, 83, (RZhRadiot, 10/76, 10Ye80).

35. Zinina, Ye.M., A.V. Shablya, Ye. B. Sveshnikova, V.L. Yermolayev, V.P. Kondakova, A.A. Lipovskiy and A.P. Serov (0). Active material for lasers Otkr. Izobr., no. 39. 1976, 495014.

C. GAS LASERS

1. Simple Mixtures

a. He-Ne

36. Bessmel'tsev, V.P., V.V. Vorob'yev, and V.A. Khanov(0)System for stabilizing the difference frequency of an He-Ne laser in a magnetic field. IN: Sb.5, 76-79. (RZhRadiot, 10/76, 10Ye21).

37. Blanaru, C., G. Popescu, A. Niculescu, and A. Ionescu (NS). Power supply for a He-Ne laser with current discharge regulation. Studii si cercetari de fizica., 1976, v. 28, no.2 197-201. (RZhF, 10/76, 10D1077).

38. Bliznyuk, V.W.(19) Study of radiation instability in an LG-75 He-Ne laser, in relation to the size of the usable part of the cross-section of its optical beam. IN: Tr. 1, 116-117. (RZhF, 11/76, 11D1247).

39. Ferenc, A.(NS). Controlling the parameters of a He-Ne laser by controlling the electrical characteristics of the gas discharge. Finommechanika, microtechnika [Hungary], 1976, 15, no. 4, 117-120, 127, 128. (RZhRadiot 12/76, 12Ye19).

40. Galaktionov, V.V. and V.V. Kobzev (161). Study of a He-Ne laser amplifier operating on a 3.39 μ wavelength. IN: Tr. 2, 72-78. (RZhF, 10/76, 10D1070).

41. Ivanov, P. (NS). Optimal conditions for increasing the service life of a He-Ne laser. Vishi mashino-elektricheski institut Lenin. Izvestiya [Bulgaria], 1975(1976), no. 5, 5-12. (RZhRadiot 12/76, 12Ye16).

42. Koshelyayevskiy, N.B., V.M. Tatarenkov, and A.N. Titov (140). Molecular resonance peak shift in an He-Ne laser with a methane absorption cell, as a function of methane pressure. KE, no. 10, 1976, 2284-2286.

43. Mogil'nitskiy, B.S. and Yu.D. Kolomnikov (O). Lasers at 0.63 μ with iodine absorption cells. IT, no. 10, 1976, 32.

44. Privalov, V.Ye. (O). Stimulated reactive vibration in a gas laser discharge, OiS, V. 41, no. 5, 1976, 859-863.

45. Shkadarevich, A.P.(O)Study of orthogonally polarized mode competition in a gas laser in a longitudinal magnetic field. IN: Sb. 2, 181. (RZhRadiot 10/76, 10Ye56).

46. Troitskiy, Yu.V. and A.P. Shebanin (O). Experimental study on the conditions for single-frequency generation in a He-Ne laser with mode selection by Q. Avtometriya, no. 6, 1976, 60-65.

47. Volkov, V.I., V.V. Onin, and V.A. Khanov (O). Research on the construction of a He-Ne laser designed for interference measurements. Avtometriya, no. 3, 1976, 73-76.

b. He-Se

48. Dobritz, G., and B. Luemkemann(NS)Experimental results on an He-Se laser. Experimentalle Technik der Physik, v. 24, no. 2, 1976, 173-176. (RZhF, 12/76, 12D996).

2. Molecular Beam and Ion

a. CO_2

49. Abdumalikov, A. Kh., M. Sh. Sharakhimov, and A.K. Kamalitdinov.(O)Noise in a CO_2 laser. IN: Sb. 2, 178. (RZhRadiot, 10/76, 10Ye7).

50. Borisov, V.M., Yu.A. Satov, and V.V. Sudakov (0). The effect of preionization on the discharge characteristics of a CO_2 laser. KE, no. 11, 1976, 2460-2462.

51. Dembovetskiy, V.V. and G.I. Surdutovich (0). Pulsation of nonlinear absorptive CO_2 laser radiation. IN: Sb. 6, 119-125. (RZhRadiot, 12/76, 12Ye3).

52. Galaktionov, I.I., V.Yu. Gorelov, and I.V. Podmoshenskiy (0). Electrical and lasing characteristics of a photoionization CO_2 laser. KE, no. 12, 1976, 2570-2575.

53. Kiselevskiy, L.I., D.A. Solov'yanchik, and A.N. Makarevich (0). Study of internal discharge in a CO_2 mixture, triggered by UV radiation. IAN B, no. 6, 1976, 43-46.

54. Konev, Yu.B., I.V. Kochetov and V.G. Pevgov (118). The balance of electron energy in the plasma of a gas discharge CO_2 laser. IN: Tr. 3, 160-166. (RZhRadiot, 12/76, 12Ye6).

55. Mirinoyatov, M.M., and S.A. Abdurakhmanov (0) Analyzing the possibility of SHF pumping of molecular lasers. IN: Sb. 2, 177. (RZhRadiot, 10/76, 10Ye155).

56. Mirinoyatov, M.M., A.U. Nazarov, and E.S. Gulyamova (0) Effect of a gas discharge on the frequency stability of an SHF oscillator for pumping a CO_2 laser. IN: Sb. 2, 180, (RZhRadiot, 10/76, 10Ye156).

57. Mirzayev, A.T., and M.M, Mirinoyatov. (0). CO_2 laser with SHF-pumping. IN: Sb. 2, 179 (RZhRadiot, 10/76, 10Ye5).

58. Rubinov, Yu.A. and P.A. Shakhverdov (0). Pre-ionized CO_2 laser with transverse pumping. PTE, no. 6, 1976, 147-148.

59. Sharakhimov, M.Sh., and A.Kh. Abdumalikov (0). Study of the radio-frequency beat spectrum of a CO_2 laser. IN: Sb. 2, 179. (RZhRadiot, 10/76, 10Ye1).

60. Sharakhimov, M.Sh., and A.Kh. Abdumalikov (0). Passive power-stabilization in a CO_2 laser. IN: Sb. 2, 185-186. (RZhRadiot, 10/76, 10Ye40).

61. Shukurov, N. (0). Laser using heterogeneous reactions of oxygen with carbon. IN: Sb. 2, 173-174. (RZhRadiot, 10/76, 10Ye70).

62. Shukurov, N., Ye.M. Cherkasov, and Z.T. Azamatov (0). Some characteristics of a CO_2 laser using atmospheric air. IN: Sb. 2, 174. (RZhRadiot, 10/76, 10Ye6).

63. Vedenov, A.A., S.V. Drobyazko, A.A. Yegorov, L.G. Zhuravskiy, and V.B. Turundayevskiy (0). Periodic open-cycle pulsed CO_2 laser with an average power of 500 W. KE, no. 11, 1976, 2480-2483.

64. Yegorov, B.V., and G.N. Sayapin (133). Population inversion at vibrational levels of molecules after direct shock waves in CO_2-N_2-H_2O mixtures. IN: Tr. 4, 123-127. (RZhF, 12/76, 12D1017).

b. CO

65. Savchenko, V.F., and V.N. Ivanov. (343). Study of a CO laser plasma. IN: Tr. 5, 80-82. (RZhF, 11/76, 11D1227).

66. Volchenok, V.I., N.P. Yegorov, V.N. Komarov, S.Ye. Kupriyanov, V.N. Ochkin, N.N. Sobolev, and E.A. Trubacheyev (1). The effect of carbon combustion on the excitation of vibrational levels in the discharge plasma of a CO laser. KE, no. 10, 1976, 2156-2160.

67. Volchenok, V.I., N.P. Yegorov, V.N. Komarov, S.Ye. Kupriyanov, V.N. Ochkin, N.N. Sobolev and E.A. Trubacheyev (1). Study on the chemical composition of a gas-discharge CO laser plasma at room temperature. ZhTF, no. 12, 1976, 2541-2550.

c. Noble Gas

68. Afonnikov, N.A. (19). Simultaneous generation of modes in stable and unstable resonators in an argon ion laser. IN: Tr. 1, 113-115. (RZhF, 11/76, 11D1155).

69. Brunin, A.N., V.A. Danilychev, V.A. Dolgikh, O.M. Kerimov, and A.N. Lobanov (1). Kinetic model of a UV laser using an Ar+N_2 mixture. KE, no. 11, 1976, 2344-2350.

70. Mkrtchyan, M.M. and V.T. Platonenko (2). Problem of obtaining population inversion in a short electrical discharge in noble gases under high pressure. KE, no. 12, 1976, 2562-2569.

71. Sidorenko, V.I., V.V. Artamonov, L.T. Berezhinskiy and M.Ya. Balakh (6). Argon laser with a system of active gas exchange. In: Sb. 7, 110-112.

d. N_2

72. Losev, V.F. and V.F. Tarasenko (78). The effect of doping an N_2 laser with SF_6. ZhTF, no. 10, 1976, 2202-2204.

73. Smirnov, Ye. A., Ye. F. Sobotkovskaya, and V.V. Chernigovskiy.(0)Study of the selection of an operating regime in a pulsed longitudinally pumped ultraviolet nitrogen laser. IN: Sb. 8, 113-118. (RZhF, 11/76, 11D1199).

74. Sviridov, A.N. and Yu. D. Tropikhin (0). Sealed-off N_2 laser with a pulse repetition rate of 10 kHz. KE, no. 11, 1976, 2448-2450.

e. NO_2

75. Izmaylov, I.A., V.A. Kochelap and Yu. A. Kukibnyy (6). The theory of light intensification during a chemiluminescent reaction between ozone and nitric oxide. IN: Sb. 7, 26-35.

f. Metal Vapor

76. Babeyko, Yu.A., L.A. Vasil'yev, V.K. Orlov, A.V. Sokolov, and L.V. Tatarintsev (0). Lasing from copper vapor in a radial-transverse discharge. KE, no. 10, 1976, 2303-2304.

77. Bakhramov, S.A., K.N. Drabovich, and Ya. Z. Fayzullayev.(0)Study of self-focusing in potassium vapor under frequency-tuning conditions. IN: Sb.2, 185-186. (RzhRadiot, 10/76, 10Ye41).

78. Bakhramov, S.A., and Ya. Z. Fayzullayev (0). Self-focusing under two-photon excitation in cesium atoms. IN: Sb. 2, 186. (RZhRadiot, 10/76, 10Ye42)

79. Batenin, V.M., P.A. Vokhmin, I.I. Klimovskiy, and G.A. Kobzev (74). The use of buffer gases in copper vapor lasers. TVT, no. 6, 1976, 1316-1318.

80. Isakov, V.K., M.M. Kalugin, and S.Ye. Potapov (0). $MnCl_2$ vapor laser: energy characteristics. ZhTF P, no. 16, 1976, 747-751.

81. Kazaryan, M.A., and A.N. Trofimov (1) Pulsed lasing from a discharge in lead chloride vapor. Kratkiye soobshcheniye po fizike, no. 4, 1976, 33-35. (RZhF, 11/76, 11D1195).

82. Latush, Ye. L., V.S. Mikhalevskiy, G.N. Tolmachev, and V.Ya. Khasilev (0). Study of transverse separation of metal vapors in cataphoretic lasers. KE, no. 10, 1976, 2306-2309.

83. Zenchenko, S.A., V.V. Kuz'min and M.G. Livshits (0). He-Cd lasers using intra-resonator phase modulation. KE, no. 11, 1976, 2462-2464.

g. Gasdynamic

84. Karlov, N.V., A.N. Orlov, Yu.N. Petrov, and A.M. Prokhorov (1). Cooling gases by discharge through a supersonic nozzle of a thermally nonequilibrium stream of gas. ZhTF P, no. 18, 1976, 825-829.

85. Krauklis, A.V., V.N. Kroshko, R.I. Soloukhin, and N.A. Fomin (193). Lasing modes in gasdynamic lasers with thermal pumping and shifting in an ultrasonic flow. FGiV, no. 5, 1976, 792-795.

86. Kudryavtsev, N.N., S.S. Novikov, and I.B. Svetlichnyy (67). Effect of nonequilibrium chemical pumping on CO_2 laser radiation amplification in the products of a $CO+N_2O$ reaction. DAN SSSR, v. 231, no. 5, 1976, 1113-1115.

87. Kudryavtsev, N.N., S.S. Novikov and I.B. Svetlichnyy (0). The effect of admixing molecular hydrogen in the diverging jet of a CO_2-N_2 mixture on laser gain. FGiV, no. 5, 1976, 729-735.

88. Kukhto, A.N. (0) Study of the characteristics of a gasdynamic CO laser. TVT, no. 6, 1976, 1281-1286.

89. Makarov, V.N. (2). Optimizing the gain of a gasdynamic CO_2 laser. FGiV, no. 5, 1976, 735-739.

90. Vasilik, N.Ya., V.M. Shmelev, and A.D. Margolin (67). Effect of chlorine on the gain of a CO_2 gasdynamic laser using the combustion products of methane compounds. KE, no. 10, 1976, 2171-2175.

h. Miscellaneous Ion

91. Aga, V.I., V.K. Bazylev, O.N. Oreshak, and Ye.P. Ostapchenko (0). White light laser. ZhPS, v. 25, no. 5, 1976, 791-795.

92. Belova, N.G. (19) Effect of near-wall processes on the distribution function of electrons according to energies in the plasma of ion lasers. IN: Tr. 1, 70-74. (RZhF, 11/76, 11D1196).

3. Theory

93. Kireyev, A.Yu., and A.D. Nadezhin (133). Photorecombination mechanism in the development of population inversion at electron levels of the nitrogen molecule. IN: Tr. 4, 119-122. (RZhF, 12/76, 12D958).

94. Kochelap, V.A. and Yu.A. Kukibinyy (0). Thermal pumping of photorecombination lasers. IN: Sb. 1, 27-42. (RZhRadiot 12/76, 12Ye64).

95. Nasedkin, Ye.F. and V.F. Sudakov (0). Interaction of orthogonal polarized modes with various transverse distribution in a single-isotope gas medium. ZhPS, v. 25, no. 5, 1976, 805-817.

96. Troitskiy, Yu.V. and A.P. Shebanin (75). Conditions for single-frequency generation in short-length gas lasers. KE, no. 11, 1976, 2454-2457.

97. Voytovich, A.P. and A.P. Shkadarevich (0). Discrimination between effects of polarization and spectral nonuniformity of saturation in gas lasers, and determination of relaxation constants. OiS, v. 41, no. 4, 1976 627-233.

D. CHEMICAL LASERS

1. $F_2+H_2(D_2)$

98. Vasil'yev G.K., Ye. F. Makarov, A.G. Ryabenko, and V.L. Tal'roze (67) The effect of rotational relaxation rate on the performance of a pulsed H_2+F_2 chemical laser. ZhETF, v. 71, no. 4, 1976, 1320-1326.

2. CS_2+O_2

99. Akulintsev, V.M., A.S. Bashkin, N.M. Gorshunov, Yu.P. Nemishchenko, A.N. Orayevskiy, V.I. Trushkin, and N.N. Yuryshev (1). The possibility of obtaining lasing in a CO molecule behind the wavefront of recompressed detonation in a CS_2+O_2 compound. FGiV, no. 5, 739-744.

3. ClF+H

100. Chebotarev, N.F. and S.Ya. Pshezhetskiy (0). The relationship of lasing in chemical lasers using ClF-H compounds with the reaction mechanism. KE, no. 10, 1976, 2232-2237.

101. Chebotarev, N.F., L.I. Trakhtenberg, and S.Ya. Pshezhetskiy (122). Determining the rate of an elementary H+ClF+HCl*+F reaction. KE, no. 12, 1976, 2552-2556.

4. Transfer

102. Nikitin, A.I. and A.N. Orayevskiy (1). Chemical laser based on the transfer of energy from TF molecules to CO_2 molecules. KE, no. 11, 1976, 2351-2357.

5. Photodissociative

103. Alekhin, B.V., B.V. Lazhintsev, V.A. Nor-Arevyan, N.N. Petrov, and L.V. Sukhanov (0). Photodissociative short-pulse laser with gain modulation of the medium by a magnetic field. KE, no. 11, 1976, 2369-2373.

104. Kamrukov, A.S., G.N. Kashnikov, N.P. Kozlov, V.A. Malashchenko, V.K. Orlov, and Yu.S. Protasov. (0)Efficiency of photodissociation of perfluoropropyliodide molecules by the excitation of plasmadynamic discharge with a "non-Planckian" radiation spectrum. IN: Sb. 4, 45. (RZhRadiot, 10/76, 10Ye270).

105. Timofeyev, V.V., B.M. Popov, M.P. Popovich, Yu.N. Zhitnev, and Yu.V. Filippov (0). On the kinetics of pulsed photolysis of ozone. ZhFKh, no.8, 1976, 2144-2146.

6. Miscellaneous

106. Belokrinitskiy, N.S. and L.A. Kernazhitskiy (5). Spectral-kinetic study of e-beam excited gases heated by shock waves. IN: Sb. 7, 57-89.

107. Gordon, Ye.B., Yu.L. Moskvin, and S.A. Sotnichenko (67). N_2O_3 vapor as a possible active medium for a photorecombination laser. KE, no. 12, 1976, 2591-2595.

108. Nikitin, A.I. and A.N. Orayevskiy (0). Determining the Einstein coefficients of spontaneous emission from TF molecules using a T_2+NF_3 chemical laser. OiS, v. 41, no. 5, 1976, 763-769.

E. COMPONENTS

1. Resonators

a. Design and Performance

109. Balashov, I.F., V.A. Bererberg, and B.A. Yermakov (0). Output slit of a laser resonator. KE, No. 10, 1976, 2176-2180.

110. Berger, N.K. and A.V. Mikheyenko (0). Distortion of laser beam structure by metallic and dielectric mirrors. IN: Sb. 6, 64-76. (RZhRadiot, 12/76, 12Ye152).

111. Dianov, Ye.M., S.K. Isayev, L.S. Korniyenko, N.V. Kravtsov, and V.V. Firsov (1,98). Laser with a lightguide resonator. KE, no. 11, 1976, 2503-2505.

112. Dreyzin, Yu.A. and A.Ya. Prudov (0). The effect of diffused scattering on the intensity distribution over the mirrors of an unstable resonator. KE, no. 11, 1976, 2363-2368.

113. Heyduk, L., and B. Luemkemann (NS). Quartz-glass discharge column. Patent GDR, no. 112555 issued 12 May 1975. (RZhElektrotekh, 7/76, 7V122).

114. Kamenskiy, Ye. I., and V.V. Kozlov (2). Laser amplifier with a polyhedral element. VMU, no. 4, 1976, 480-482.

115. Luk'yanov, Yu.N. and A.D. Fedorov (0). Transverse modes of a three-mirror resonator. IN: Sb. 6, 102-109. (RZhRadiot, 12/76, 12Ye153).

116. Mikhaylov, Yu.N., A.A. Mak, A.I. Stepanov, B.G. Malinin, L.N. Soms, and O.N. Voron'ko (0). Laser with the active element in the shape of a plane-parallel plate]. Author's Certificate USSR, no. 337069, Feb. 17, 1976. (RZhRadiot, 12/76, 12Ye97P).

117. Reshetin, E.F. (19). Methods for calculating diffraction losses in an open optical resonator. Dependence of losses on the curvature of the resonator mirror. IN: Tr. 1, 67-70. (RZhF, 11/76, 11D1153).

b. Mode Kinetics

118. Ablekov, V.K., V.S. Belyayev, V.M. Marchenko, and A.M. Prokhorov (1). Diffraction properties of periodic optical resonator modes. DAN SSSR, v. 230, no. 5, 1976, 1066-1068.

119. Luk'yanov, Yu.N. and V.A. Shakirov (0). Distribution of emission from a resonator with non-spherical mirrors. IN: Sb. 6, 126-130. (RZhRadiot 12/76, 12Ye150).

120. Sukhanov, I.I. and Yu.V. Troitskiy (75). Mode-locking control in a gas laser by a phase interferometer. KE, no. 12, 1976 2596-2605.

121. Vorob'yev, F.A. and Yu.Ye. Studenikin (0). Transverse field structure in an active resonator with nonlinear gain. IN: Sb. 6, 110-118. (RZhRadiot 12/76, 12Ye151)

122. Yevseyev, I.V., V.M. Yermachenko, and V.K. Matskevich (16). Competition of strong modes of differing polarizations in a gas laser. KE, no.11, 1976, 2418-2426.

2. Pump Sources

123. Belkin, N.V., N.G. Pavlovskaya, L.N. Khudyakova and S.L. El'yash (0). Using a combined pulsed transformer for e-beam pumping of a semiconductor laser. PTE, no. 6, 1976, 149-150.

124. D'yakonov, V.P. (397). Generators of high-power nanosecond pulses for exciting semiconductor light sources. PTE, no. 5, 1976, 113-115.

125. Glotov, Ye.P., A.G. Degtyarev, V.B. Rozanov, and Yu.P. Sviridenko (1). Electron gun with a photoelectric cathode for electroionization lasers. KE, no. 10, 1976 2181-2186.

126. Gogolitsyn, L.Z., Yu.V. Lebedev, Yu.A. Petrov, V.A. Mil'chakov, and A.O. Tsoroyev (110). Stabilized pulsed thyristor power supply for a c-w laser. IN: Tr. 6, 71-75. (RZhElektrotekh, 7/76, 7V228).

127. Krasyuk, I.K., N.I. Lipatov, and P.P. Pashinin (1). Formation of pulses of UV radiation in the plasma of a surface-discharge wave-front impacted by an electromagnetic wave. KE, no. 11, 1976, 2384-2391.

128. Kuznetsov, V.G. (0). Device for controlling the ignition of a flash-lamp. Author's Certificate USSR, no. 451215, May 5, 1975. (RZhRadiot, 12/76, 12Ye173P).

129. Losev, V.F., V.F. Tarasenko, and A.I. Fedorov (78). Pump source for lasers using transverse pumping. PTE, no. 5, 1976, 213-214.

130. Makhrov, Ye.T., N.I. Cherepov, and I.I. Yazev (0). Single-action flashlamp as an optical pumping source for lasers. KE, no. 10, 1976, 2300-2301.

131. Prokhorov, A.M. and A.S. Selivanenko (0). Method of exciting electro-magnetic waves in a laser. Author's Certificate USSR, no. 497706, March 11, 1976. (RZhRadiot, 12/76, 12Ye166P).

132. Ross, W., and K. Seliger (NS). Pulsed electrical traveling-wave generator for a pulsed gas laser. Patent GDR, no. 114747, issued 20 August 1975. (RZhRadiot, 10/76, 10Ye159).

133. Sushko, V.A., and M.N. Zel'dich (0). Current regulator for a continuous-pumping laser flashlamp. IN: Sb. 9, 95-99. (RZhElektrotekh, 9/76, 9V249).

134. Tamanis, M.Ya., R.S. Ferber and O.A. Shmit (O). Optical orientation of diatomic molecules under circularly-polarized laser excitation. OiS, v. 41, no. 6, 1976, 925-929.

135. Vinokurov, N.I., and Yu.F. Fomenko (34). Study of the lag in electrical breakdown in pulsed laser flashlamps. IN: Tr. 7, 93-95. (RZhRadiot, 10/76, 10Ye158).

136. Zehe, A., and W. Seifert (NS). Indirect e-beam excitation of ruby by GaN recombination radiation. Physica status solidi (a), v. 31, no. 2, K141-K142. (RZhElektrotekh, 7/76, 7V121).

3. Deflectors

137. V'yukhin, V.N., I.S. Gibin, V.V. Kurochkin, V.M. Mastikhin, P.Ye. Tverdohkleb, Yu.N. Tishchenko, A.V. Trubetskoy, and D.V. Sheloput (O). System for acoustooptical deflection of a laser beam. Avtometriya, no. 6, 1976, 97-98.

4. Attenuators

138. Goryunova, T.D., B.G. Zyabrev, S.V. Mamakina, G.I. Rukman, N.V. Shalomeyeva, and Ye.B. Shelemin.(O)Design and test results of a stepped optical attenuator. IN: Sb. 10, 53-56. (RZhF, 11/76, 11D1423).

5. Filters

139. Bresler, M.S., O.B. Gusev, and A.P. Korol'kov (4). Cutoff filter for use with a CO_2 laser. PTE, no. 6, 1976, 168-169.

140. Grazhulene, S.S., L.A. Musikhin, G.F. Telegin and V.D. Shigorin (66). Method of obtaining single-crystals of organic matter. Author's Certificate SSSR, no. 496043, March 3, 1976. (RZhRadiot, 12/76, 12Ye165P).

141. Interference filters for lasers. Technological process for obtaining titanium and silicon in oxygen by cathode sputtering. OMP, no. 10, 1976, 11

142. Rubinov, A.N. and M.V. Belokon' (3). Increasing the contrast in spectral distribution of the intensity of laser radiation by a spatial-frequency method of filtration in a nonlinear absorbent. ZhTF P, no. 16, 1976, 738-743.

6. Detectors

143. Artemov, Yu.P., L.A. Bakumov, V.P. Blagikh, Ye.A. Khesed and Ya. L. Khlyavich (0). Bidirectional position-sensitive photodetector for precision adjustments. IT, no. 8, 1976, 23-24.

144. Aver'yanova, T.V., I.D. Anisimova, T.V. Rudovol and V.I. Stafeyev (0). Photoelectric properties of $pGa_{1-x}Al_xAs$-iGaAs-nGaAs heterojunctions. RiE, no. 12, 1976.

145. Barashkov, M.S., V.S. Dugin, I.N. Matveyev, S.M. Pshenichnikov, and A.F. Umnov (0). Investigating the characteristics of IR photodetectors with optical frequency conversion using $LiIO_3$ and $LiNbO_3$ crystals. PTE, no. 6, 1976, 155-157.

146. Basayev, A.B. and G.A. Chuntonov (399). Possibility of using dye laser amplifiers to enhance the effectiveness of astronomical photosensors in the near IR. IN: Tr. 8, 141-143. (RZhF, 7/76, 7D1505).

147. Belyy, V.I., O.A. Gudayev, and I.A. Fokina (0). Research on the kinetics of photoconversion in layers of photoresistors subjected to laser irradiation. Avtometriya, no. 4, 1976, 84-87.

148. Bezuglyy, B.A., V.V. Galaktionov, L.G. Dobrolyubova, and V.A. Rozhanskiy (161). Sensitivity of optical heterodyne detectors with light-separating devices. IN: Tr. 2, 16-22. (RZhRadiot, 10/76, 10Ye174).

149. Butt, V.Ye. and B.N. Pankov (0). Fast-response photodetecting matrix. Avtometriya, no. 6, 1976, 88-93.

150. Deryugin, I.A., V.N. Kurashov and A.I. Mashchenko (106). Coherent-differential reception of dual optical signals. IN: Sb. 7, 51-57.

151. Gatsenko, L.S., T.M. Golovner, and G.N. Groshkova (0). Au-Si surface-barrier detectors with heightened sensitivity in the near UV region. PTE, no. 5, 1976, 272-273.

152. Gol'dberg, Yu.A., T.V. L'vova, and B.V. Tsarenkov (0). Chemical method of forming surface-barrier GaP and GaAs photodetectors for the UV and visible ranges. PTE, no. 4, 1976, 212-214.

153. Kazyulin, V.I. and O.R. Mochalkina (0). Channel photodetector with charge accumulation. IVUZ Radioelektr, no. 12, 1976, 20-26.

154. Klimkin, V.M. and V.Ye.Prokop'yev (78). Use of photodetectors with photocathodes using Ag+O+Cs for recording and visualization of laser radiation in the 1-2μ region. PTE, no. 5, 1976, 215-216.

155. Mirzayev, A.T., and A.V. Belyayev (0). Photocount statistics of radiation appearing as superpositions of modulated coherent and chaotic (noise) fields. IN: Sb. 2, 178. (RZhRadiot, 10/76, 10Ye233).

156. Mitsenko, I.D., and B.V. Galun (0). Study of transient processes in a photodetecting channel. RiE, no. 12, 1976, 2636-2639.

157. Mukhamed'yarov, R.D., V.N. Zhukov, V.I. Stuk, O.Yu. Blinov, and G.A. Kitayev (42). Apparatus for measuring the parameters of photodetectors. PTE, no. 6, 1976, 234.

158. Presnukhin, L.N., L.M. Zhavoronkov, and V.N. Lanenko (119). Apparatus for computing the coordinates of a light spot. Otkr. izobr. no. 30, 1976, 525037.

159. Shelkovnikov, Yu.K. and P.I. Gos'kov (251). Apparatus for measuring light flux coordinates. Otkr. izobr. no. 28, 1976, 523537.

160. Valov, P.M., K.V. Goncharenko, Yu.V. Markov, B.S. Ryvkin, S.M. Ryvkin, and I.D. Yaroshetskiy (4). IR radiation power meter. Otkr. izobr., no. 31, 1976, 475907.

161. Vasilevskaya, A.S., I.M. Grodnenskiy, A.S. Levichev, I.A. Slepkov, A.V. Smolya, A.S. Sonin, and N.B. Fel'dman (141). Electrooptical properties of polarized ceramic based on Pb-La zirconate-titanate. NM, no. 8, 1976, 1504-1506.

162. Vasilevskaya, A.S., I.M. Grodnenskiy, and A.S. Sonin (0). Detecting IR radiation by a light-scattering effect. PTE, no. 5, 1976, 223-226.

163. Vetrov, O.V. and V.I. Sarkisov (0). Device for recording optical flux. Otkr. izobr. no. 38, 1976, 532016.

164. Zolotarev, V.F. and A.M. Fantich (0). Detection capabilities of commutated photosensors. IVUZ Radioelektr., no. 5, 1976, 34-40. (RZhF, 10/76, 10D1300).

7. Modulators

165. Apostolov, K.V. (NS). Nonlinear distortions during modulation of He-Ne and CO_2 laser radiation by varying the current in the gas. Bolgarskiy fizicheskiy zhurnal, v. 2, no. 6, 1975 (1976), 654-664. (RZhF, 11/76, 11D1244).

166. Arabidze, A.A., and D.D. Khalipova (0). Determining the electrooptic coefficients of a $BaTiO_3$ crystal by an interference method. IN: Sb. 11, 33-36. (RZhF, 12/76, 12D822).

167. Berezhnoy, A.A., Yu.V. Popov and N.B. Sidorenko (0). Electrooptical light modulator. Otkr. izobr., no. 30, 1976, 525042.

168. Butusov, M.M. and A.V. Ivanov (0). Use of inverse piezoelectric effect for modulating coherent light. IN: Sb. 12, 142-147.

169. Bykovskiy, N. Ye., N.V. Pletnev, Yu. V. Senatskiy, and S.I. Fedotov (1). Pulsed Q-switching in an Nd: glass laser with a nonlinear absorber. Kratkiye soobshcheniye po fizike, no. 6, 1976, 34-39. (RZhF, 11/76, 11D1175).

170. Farynski, A., L. Karpinski, and A. Nowak (NS). Possibility of forming the radial distribution of a laser beam by means of the Faraday effect. BAPS, vol. 25, No. 12, 1976, 107 [927]-113[933].

171. Karman, R.L. (0) Generation of programmed time-distribution for laser pulses from 500 nanoseconds to 0.5 nanoseconds. IN: Sb. 3, 230. (RZhRadiot, 10/76, 10Ye136).

172. Klipko, A.T., P.Ye. Kotlyar, Ye. S. Nezhevenko, V.I. Fel'dbush, and V.S. Shibanov (0). Space and time optical modulators using $Bi_{12}GeO_{20}$ $Bi_{12}SiO_{20}$ single crystals. Avtometriya, no. 4, 1976, 34-43.

173. Kludzin, V.V., S.V. Kulakov and B.P. Razzhivin (0). Ultrasonic modulators of light in optical information processing systems. IN: Sb. 12, 134-142.

174. Kuz'minov, Yu. S., F.A. Logachev, N.M. Lyndin, B.B. Meshkov, A.M. Prokhorov, V.A. Sychugov, and G.P. Shipulo(0) Thin-film light modulator. IN: Sb. 3, 330. (RZhRadiot, 10/76, 10Ye133).

175. Novgorodtsev, A.B. (0) Using an electrical field in electrooptic crystals to control laser radiation. IN: Sb. 13, 9-16. (RZhElektrotekh, 7/76, 7V206).

176. Tyagay, V.A., O.V. Snitko, V.B. Popov and V.N. Bondarenko (6). Electrooptical laser radiation modulators using the Franz-Keldysh effect in semiconductors. IN: Sb. 7, 89-100.

177. Vartapetov, S.K., V.I. Vovchenko, I.K. Krasyuk, and P.P. Pashinin (1). Study of a passive mode synchronization laser with a selected moment of lasing. KE, no. 11, 1976, 2450-2451.

178. Vasilevskaya, A.S., I.M. Grodnenskiy, and A.S. Sonin (0). Time characteristics of scattering in transparent piezoceramic. KE, no. 10, 1976 2991-2993.

179. Zheltov, G.I., A.S. Rubanov, and G.G. Meshkov (0). Kinetics of producing a single pulse by self Q-switching. ZhPS, v. 25, no.5, 1976, 800-804.

F. NONLINEAR OPTICS

1. Frequency Conversion

180. Akimenko, A.I., V.S. Solov'yev, and I.K. Yanson (107). Submillimeter-range signal shifter using superconducting point contacts. KE, no. 10, 1976, 2147-2155.

181. Atanesyan, V.G., V.S. Grigoryan, and K.V. Karmenyan (37). Frequency tuning by second harmonic generation of picosecond light pulses. KE, no. 10, 1976, 2135-2138.

182. Bulakh, G.I., I.Ya. Kucherov, and L.V. Ostrovskiy (51). Second harmonic generation by a transverse wave in a piezo semiconducting element. FTT, no. 9, 1976, 2840-2843.

183. Dagina, N.Ye., T.V. Rybakova, T.N. Ushakova, and I.D. Yaroshetskiy (0). Nonlinear properties of $CdGeAs_2$ crystals characterizing CO_2 laser-excited second harmonic generation. IN: Sb. 14, 34-36. (RZhRadiot, 10/76, 10Ye118).

184. Dobrzhanskaya, L.G. and L.B. Meysner (311). Laser frequency doubling in highly dispersed crystal media. Kristal, no. 6, 1976, 1220-1211.

185 Kamach, Yu.E., Ye.N. Kozlovskiy, Yu.V. Lyubavskiy, V.M. Ovchinnikov and A.G. Khatkevich (0). Optical radiation frequency converter. Author's Certificate USSR, no. 498679, May 26, 1976. (RZhRadiot 12/76, 12Ye124P).

186. Khadzhi, P.I., S.A. Moskalenko, and K.G. Petrashku(0) Lasing in bi-excitons and a method of optical frequency doubling in high-power and high-density excitons in semiconductors. IN: Sb 3, 364. (RZhRadiot, 10/76, 10Ye93)

187. Kosmol, M. (NS). Ultrasonic light diffraction and the third harmonic optical generation in liquids. APP, no. 3, 1976, 375-382.

188. Kuszynski, W. (NS). Study of second harmonic generation efficiency in focused optical beams. "Pr. Komis. mat.-przyrodn. Poznan. towarz. przyjaciol nauk", 1975, 7, no. 1, 121-132. (RZhRadiot, 12/76, 12Ye113).

189. Nestrizhenko, Yu.A. (84). Dual-frequency laser. Otkr. izobr., no. 41, 1976, 486615.

190. Nestrizhenko, Yu.A. (84). Laser radiation frequency selector. Otkr. izobr., no. 43, 1976, 505241.

191. Reutov, A.T., and P.P. Tarashchenko (0). Effect of inhomogeneity in the thickness of a waveguide layer on the efficiency of frequency conversion in a nonlinear optical waveguide. IN: Sb. 3, 349-350. (RZhRadiot, 10/76, 10Ye207).

192. Sushkov, O.P., V.V. Flambaum, and I.B. Khriplovich (79). Parity nonconservation in strongly forbidden thallium transitions in thallium and lead. ZhETF P, v. 24, no. 9, 1976, 502-507.

193. Volkova, Ye.N. and Sh.L. Fayerman (376,2). Refractive indices of $KD_{2x}H_{2(1-x)}PO_4$ and $RbD_{2x}H_{2(1-x)}PO_4$ crystals. KE, no. 11, 1976, 2508-2511.

194. Volosov, V.D., A.G. Kalintsev, and V.N. Krylov (0). Suppressing degenerate parametric processes which restrict the effectiveness of frequency doubling in crystals. KE, no. 10, 1976, 2139-2146.

2. Parametric Processes

195. Abaliyeva, M.A., and G.A. Lyakhov (0). Calculating the duration and amplitude of short pulses in 180° parametric scattering. IN: Sb. 2, 188-189. (RZhRadiot, 10/76, 10Ye316).

196. Volyak, K.I. and G.A. Lyakhov (2,68). The vibrational character of transient processes in nonlinear interactions of opposed waves. KE, no. 11, 1976, 2470-2473.

3. Stimulated Scattering

a. Raman

197. Andreyev, R.B., Ya.S. Bobovich, A.V. Bortkevich and V.D. Volosov (0). Anomalous behavior of anti-Stokes stimulated Raman scattering. OiS, v. 41, no. 4, 1976, 684-685.

198. Andreyev, R.B., Ya.S. Bobovich, A.V. Bortkevich, V.D. Volosov and M.Ya. Tsenter (0). Resonant Raman scattering of rhodamine and pyronin. Spectral appearance of the normal and excited structure of the molecules. OiS, v. 41, no. 5, 1976, 782-790.

199. Bobovich, Ya.S. and A.V. Bortkevich (0). On the nature of fine structure secondary luminescence spectra of dyes under extremely powerful pumping. OiS, v. 41, no. 5, 1976, 896-898.

200. Gazenzhel', Zh. (French), A.D. Kudrayavtseva (1), Zh. Ribua (French), and A.I. Sokolovskaya (1). Stimulated Raman scattering and self-focusing of light in matter with various effective Raman scattering cross sections. ZhETF, v. 71, no. 5, 1976, 1748-1754.

201. Kravtsov, N.V. and N. I. Naumkin (98). Generation of Raman radiation in an extended Raman scattering-active medium. KE, no. 12, 1976, 2612-2624.

202. Lugovoy, V.N. (1). Stimulated Raman radiation and frequency scanning in an optical waveguide. ZhETF, v. 71, no. 4, 1976, 1307-1319.

203. Makhviladze, T.M. and M.Ye. Sarychev (0). Angular distribution of stimulated Raman scattering of light in an isotropic medium. ZhPS, v. 25, no. 6, 1976, 1062-1067.

204. Makhviladze, T.M. and M.Ye. Sarychev (0). Angular distributions of higher Stokes components of stimulated Raman scattering. OiS, v. 41, no. 6, 1976, 960-963.

205. Vakhonev, M.B., V.N. Volkov, A.Z. Grasyuk and A.N. Kirkin (1). Measurement of stimulated Raman scattering gain in the case of spatially nonuniform pumping. KE, no. 11, 1976, 2494-2496.

206. Yemel'yanov, V.I. and Yu.L. Klimontovich (0). Temporal evolution and fine structure of Dicke super-radiance and super-luminance in two-level atoms. OiS, v. 41, no. 6, 1976, 913-919.

b. Brillouin

207. Andreyev, N.F., V.I. Bespalov, A.M. Kiselev, A.M. Kubarev, and G.A. Pasmanik (8). Pulse forming by stimulated scattering in extended media. Intensity modulation of transmitted and backscattered radiation. KE, no. 10, 1976, 2248-2252.

208. Bel'dyugin, I.M., M.G. Galushkin, Ye. M. Zemskov, and V.I. Mandrosov (0). The complex conjugation of fields under stimulated Brillouin scattering. KE, no. 11, 1976, 2467-2470.

209. Betin, A.A. and G.A. Pasmanik (8). Spatial structure of Stokes radiation from Brillouin backscatter of light rays. KE, no. 10, 1976, 2215-2220.

210. Faynshteyn, S.M. (8). The conversion of energy from Alfven waves and heating plasma by sound waves under stimulated Brillouin scattering in a plasma layer. Fizika plazmy, no. 5, 1976, 756-760.

211. Sidorovich, V.G. (0). Theory of the "Brillouin mirror". ZhTF, no. 10, 1976, 2168-2174.

c. Miscellaneous

212. Miroshnichenko, V.I. (0). Stimulated coherent scattering of an electromagnetic wave by a relativistic e-beam in a magnetic field. Fizika plazmy, no. 5, 1976, 789-794.

4. Self-focusing

213. Borshch, A.A. and M.S. Brodin (5). Self-action of laser beams in semiconductors of the A_2B_6 group. IN: Sb. 7, 1976, 3-18.

214. Kask, N.Ye., L.S. Korniyenko, V.V. Radchenko, and G.M. Fedorov (2). Nonstationary thermal self-focusing in ZhS-12 glass. VMU, no. 4, 1976, 498-500.

215. Lyakhov, G.A., and V.A. Makarov (0). Stability of self-focusing of laser radiation in liquid crystals. IN: Sb. 2, 187-188. (RZhRadiot, 10/76, 10Ye307).

216. Mastryukov, A.F. and V.S. Synakh (80). Numerical modeling of the breakdown of self-focusing beams into filaments. KE, no. 11, 1976, 2473-2474.

217. Tikhonov, N.A. (2). Modeling of self-focusing beams. DAN SSSR, v. 231, no. 3, 1976, 592-594.

218. Zakharov, V.Ye., A.F. Mastryukov, and V.S. Synakh (80,73). Self-focusing wave packets in nonlinear media. KE, no. 12, 1976, 2557-2561.

5. Acoustic Interaction

219. Aksenov, Ye.T., N.A. Bukharin, V.A. Grigor'yev, N.A. Yesepkina, S.V. Pruss-Zhukovskiy and V.V. Chkalova (29). Frequency characteristics of acoustooptical modulators. ZhTF, no. 10, 1976, 2148-2154.

220. Balakshiy, V.I., Ye.I. Zotov, and V.N. Parygin (2). Anisotropic diffraction of light in a medium with artificial anisotropy. KE, no. 10, 1976, 2197-2204.

221. Gomenyuk, A.S., V.P. Zharov, and V.O. Shaydurov (24). Kinetics of the optoacoustic effect during the excitation of molecules by resonant laser radiation. IN: Tr. 9, 45-52. (RZhF, 11/76, 11D1235).

222. Gudzenko, A.I., I.L. Zubarev, and O.A. Kurdyumov (0). Basic theory of the interaction of acoustic and optical surface waves in plane waveguides. IN: Sb. 3, 359. (RZhRadiot, 10/76, 10Ye211).

223. Kapustina, O.A. and V.N. Lupanov (21). Acoustooptical properties of a nematic crystal layer with homogeneous orientation. ZhETF, v. 71, no. 6, 1976, 2324-2329.

224. Klimko, A.P., and L.D. Stepin (34) Study of the acoustic effects of laser radiation. IN: Tr. 7, 95-97. (RZhRadiot, 10/76, 10Ye320).

225. Kulikov, V.V. (0). Analysis of the parameters of a heterodyne-type correlator using an ultrasound light modulator. Avtometriya, no. 6, 1976 93-95.

226. Lemanov, V.V. and B.V. Sukharev (4). Acoustooptical interaction in anisotropic planar lightguides. FTT, no. 11, 1976, 3553-3555.

227. Pavlovich, V.V. and E.M. Epshteyn (0). Photostimulated extrinsic absorption of ultrasound in solids. FTT, no. 10, 1976, 3156-3157.

228. Zlenko, A.A., A.M. Prokhorov, and V.A. Sychugov (1). Frequency tuning of thin-film laser radiation. KE, no. 11, 1976, 2487-2490.

6. General Theory

229. Aleksandrov, D.S., A.T. Anistratov, L.P. Zubanova, I.S. Kabanov, and V.F. Shabanov (0). Nonlinear optical properties of piezoelectric $NaNH_4SeO_4 \cdot ?H_2O$ crystals. Avtometriya, no. 5, 1976, 26-30.

230. Alimpiyev, S.S., N.V. Karlov, and B.G. Sartakov (1). Photon echo in gases under high intensities of exciting pulses. IN: Tr. 10, 134-140.

231. Bukhenskiy, M.F. and B.F. Polkovnikov (0). Eighth All-Union conference on coherent and nonlinear optics, Tbilisi, 25-28 May 1976, KE, no. 11, 1976, 2522-2532.

232. Bunkin, A.F., S.G. Ivanov, and N.I. Koroteyev(2). Observation of resonance interference in nonlinear optical susceptibilities of molecules in a solution. ZhETF P, v. 24, no. 8, 1976, 468-472.

233. Dvornikov, D.P., Ye.L. Ivchenko, V.V. Pershin and I.D. Yaroshetskiy (4). Nonlinear optical absorption in A^3B^5 crystals. FTP, no. 12, 1976, 2308-2315.

234. Dvornikov, D.P., Ye.L. Ivchenko, V.V. Pershin, and I.D. Yaroshetskiy (4). Effect of transitions at deep impurity centers on nonlinear optical absorption in semiconductors. FTP, no. 12, 1976, 2316-2320.

235. Gayner, A.V. and R.I. Sokolovskiy (0). Integral equations for electromagnetic waves in nonlinear media. OiS, v. 41, no. 5, 1976, 838-844.

236. Kiryukhin, N.N., and F.V. Lisovskiy (0). Diffraction of light by parametric magnons. ZhETF P, v. 24, no. 9, 1976, 485-489.

237. Kozyreva, Ye.B., Zh.S. Yakovleva, and Z.M. Kaveyeva (0). Characteristics of the interaction of silver halide with coherent and noncoherent radiation. IN: Sb. 3, 387. (RZhRadiot, 10/76, 10Ye294)

238. Kuz'mina, N.V. and N.N. Rozanov (0). Propagation of waveguide modes in a nonlinear active medium. OiS, v. 41, no. 5, 1976, 845-849.

239. Rabinovich, M.I. and A.L. Fabrikant (8). Nonlinear waves in nonequilibrium media. IVUZ Radiofiz, no. 5-6, 1976, 721-766.

240. Solov'yev, A.P., and B.G. Tsikin (0). Possibility of amplifying laser radiation by an e-beam during high-power optical pumping. IN: Sb. 15, 60-68. (RZhF, 12/76, 12D957)

241. Zimin, L.G., V.P. Gribkovskiy, and N.K. Samuylova (0). Temperature dependence ot nonlinear absorption in ZnTe. ZhPS, v. 25, no. 4, 1976, 723-725.

G. SPECTROSCOPY OF LASER MATERIALS

242. Andreev, A.Ts., E.N. Keskinova, and P.P. Kircheva (NS). Explanation of the "absorption edge" in the stimulated fluorescence spectrum of organic dyes. Bolgarskiy fizicheskiy zhurnal, v. 2, no. 5, 1975(1976), 480-487. (RZhF, 11/76, 11D1116)

243. Arapova, E.Ya., N.V. Zamkovets, N.N. Sibel'din, Yu.P. Timofeyev, S.A. Fridman and V.A. Tsvetkov (0). Antistokes YOCl-Yb^{3+},Er^{3+} luminescence at liquid helium temperatures. OiS, v. 41, no. 5, 1976, 890-891.

244. Khomenko, V.S., N.N. Mit'kina, V.V. Kuznetsova (0). Anti-Stokes lunimescence of the GdOCl:Yb^{3+},Ho^{3+} system. IAN B, no. 6, 1976, 89-92.

245. Radautsan, S.I., V.P. Gribkovskiy, A.Ye. Tsurkan, L.G. Zimin, V.I. Verlan, and N.K. Samuylova (44). The bleaching effect in ZnTe:Li crystals in the green spectral region under laser excitation. KE, no. 11, 1976, 2465-2467.

246. Suslina, L.G., Ye.I. Panasyuk, S.G. Konnikov and D.L. Fedorov(4). Exciton spectra and band structure of mixed $Zn_xCd_{1-x}S$ crystals. FTP, no. 10, 1976, 1830-1838.

247. Tsintsadze, Z.G., V.S. Kortov, and F.F. Gavrilov (42). Complex spectroscopic study of ruby crystals. Akademiya Nauk Gruz SSR, Soobshcheniya, no. 2, 1976, 341-344.

H. ULTRASHORT PULSE GENERATION

248. Dikchyus, G.A., V.I. Kabelka, A.S. Piskarskas, and A.Yu. Stabinis (49). Determining the duration of ultrashort light pulses by a parametric amplification method in nonlinear crystals. Litovskiy fizicheskiy sbornik, v. 16, no. 3, 1976, 441-445.

249. Dinev, S.G., S.M. Saltiel, K.V. Stamenov, K.A. Stankov, and I.V. Tomov (NS). Generation of tunable picosecond pulses in the visible and ultraviolet range. Bolgarskiy fizicheskiy zhurnal, v. 2, no. 5, 1975(1976), 520-532. (RZhF, 11/76, 11D1131).

250. Milinkevich, A.V., V.A. Savva, and A.M. Samson(O). Dynamics of distribution and self-stabilization of the characteristics of ultrashort laser pulses in the self-synchronization mode. ZhPS, v.25, no. 4, 1976, 618-624.

J. CRYSTAL GROWING

251. Arsen'yev, P.A., and Ye.F. Kustov (O). Growing single crystals of oxide compounds by an optical heating method, for use in quantum electronics. IN: Sb. 16, 80-86. (RZhKh, 14/76, 14B575).

252. Sokol, V.A., D.A. Rokhlenko, L.I. Kononova, R.S. Zavoruyeva. N.V. Bychkov and A.V. Bromberg (O). Synthesis and study of Al_2O_3 for transparent ceramics. NM, no. 8, 1976, 1419-1423.

K. THEORETICAL ASPECTS OF ADVANCED LASERS

253. Rivlin, L.A. (141). Optical stimulation from electron-positron annihilation: experimental feasibility. KE, no. 11, 1976, 2413-2417.

L. GENERAL LASER THEORY

254. Cherpak, N.T. and T.A. Smirnova (84). Microwave amplification in active rods with a varying concentration of paramagnetic ions. IN: Sb. 7, 101-109.

255. Gershenzon, Yu.M. and V.B. Rozenshteyn (67). Relaxation of oscillating energy of molecular compounds with nearby frequencies. Part 1. Expressions for the relaxation rate constant. KhVE, no. 5, 1976, 387-391.

256. Kudrya, V.P., T.M. Makhviladze, I.G. Sinitsyn, and L.A. Shelepin. (1). Coherent effects and problems of controlling radiation in multilevel systems. IN: Tr. 10, 38-54.

257. Lizin, I.M., T.M. Makhviladze, and L.A. Shelepin (1). Superluminescence effects in molecular systems. IN: Tr. 10, 21-37.

258. Pusep, A. Yu. (0). Acceleration of atoms by coherent radiation. IN: Sb.3, 318. (RZhRadiot, 10/76, 10Ye323).

259. Shkerdin, G.N. and Yu.V. Gulyayev (15). Theory of a laser with acoustically distributed negative feedback. FTP, no. 10, 1976, 1850-1855.

260. Yelyutin, P.V. (2). Kinetics of induced relaxation. VMU, no. 4, 1976 496-497.

II. LASER APPLICATIONS

A. BIOLOGICAL EFFECTS

261. Miroshnikov, M.M. (7). Use of lasers in medicine. OMP, no. 12, 1976, 56-62.

262. Shadrikov, O.A. and M.A. Polyakov (0). Apparatus for studying photosynthesis in laser beams by means of an infrared gas analyzer. EOM, no. 5, 1976, 72-74.

B. COMMUNICATIONS SYSTEMS

263. Abakumov, B.M., N.D. Baykova, G.I. Rukman, and B.M. Stepanov (0). Media for recording radiation in the infrared. IN: Sb. 10, 5-27, (RZhRadiot, 11/76, 11Ye392).

264. Abramchuk, N.M., L.N. Korennaya, S.S. Shushkevich, and V.P. Yanovskiy (0). Adaptive reception of optical signals by a system of spaced receivers. DAN B, no. 6, 1976, 513-516, (RZhF, 10/76, 10D1299).

265. Alferov, Zh. I., P. Dias, N.V. Klepikova, Ye. L. Portnoy, B.S. Ryvkin V.B. Smirnitskiy (0). Waveguide characteristics of heterostructures with steady change in composition. IN: Sb. 3, 332, (RZhRadiot, 10/76, 10Ye195)

266. Alferov, Zh.I., Ye.L. Portnoy, Ye.V. Printsev and Yu.K. Rudov (4). Choice of injection laser pumping method in optical communication lines. ZhTF, no. 11, 1976, 2398-2402.

267. Andreyev, Yu. M., S.A. Danichkin, and I.V. Samokhvalov (0). Effect of power supply regimes on the characteristics of photomultipliers. IN: Sb. 17 135-140, (RZhGeofiz, 10/76, 10B94).

268. Arshinov, Yu. F., S.M. Bobrovnikov, S.A. Danichkin, T.A. Lopasova, and I.V. Samokhvalov (0). Principles of calculating the basic parameters of a lidar using a spectral instrument with an entrance slit. IN: Sb. 18, 150-153. (RZhGeofiz, 10/76, 10B104).

269. Avdeyeva, N.I. (0). Propagation of light in thin-film anisotropic waveguides. IAN B, no. 4, 1976, 108-116.

270. Avdeyeva, N.I., V.I. Borisov, and V.I. Lebedev (0). Thin-film surface-wave laser for integrated optics. IN: Sb. 3, 345, (RZhRadiot, 10/76, 10Ye119)

271. Avdeyeva, N.I., and A.M. Goncharenko(0). Energy flux in a plane nonsymmetric anisotropic lightguide. IN: Sb. 3, 355, (RZhRadiot, 10/76, 10Ye206)

272. Avdeyeva, N.I., A.M. Goncharenko, and L.A. Mazanik(0). Inhomogeneous modulated optical waveguides. IN: Sb 3, 351, (RZhRadiot, 10/76, 10Ye198).

273. Bajic, M. (NS). A survey of laser applications in antenna technology. Naucno-tehnicki pregled. VTI, 1976, 26, n 2, 51-59. (RZhRadiot 12/76, 12Ye238).

274. Belanov, A.S., Ye. M. Dianov, and A.M. Prokhorov (0). Multilayer optical waveguides. IN: Sb. 3, 325, (RZhRadiot, 10/76, 10Ye208).

275. Belov, A.V., A.N. Gur'yanov, G.G. Devyatykh, Ye. M. Dianov, V.G. Luzhain, A.V. Nikolaychik, A.M. Prokhorov, and A.S. Yushin (1). Low-loss fiber optic light-guide with an SiO_2+GeO_2 core and a borosilicate sheathing. KE, no. 11, 1976, 2483-2485.

276. Bessonov, A.F., A.I. Gudzenko, L.N. Deryugin, V.A.Konotskiy, G.A. Pogosov, V.Ye. Sotin, and V.F. Terichev (14). Plane waveguide for the mid-IR range with a chalcogenide glass contact layer. KE, no. 10, 1976, 2289-2290.

277. Bondar, V.N., G.M. Fedorenko, and B.A. Sharevskiy(0). Transmission of information over an optical communications channel while measuring rotating cryogenic systems. IN: Sb. 19, 54-56, (RZhRadiot, 10/76, 10Ye164).

278. Bondarenko, I.D. (87). The possibility of using corner reflectors with metallized reflecting faces in optical DME's. IVUZ Priboro, no. 10, 1976, 112-115.

279. Botvinkin, M.I., V.V. Grigor'yants, M.Ye. Zhabotinskiy, V.N. Isakov, G.A. Ivanov, N.A. Koreneva, O.I. Ryabykh, S.V. Shreyber, and Yu. K. Chamorovskiy (15). Quartz glass lightguides with radial variation of boron and phosphorus content. KE, no. 10, 1976, 2304-2306.

280. Chanturiya, G.F., and R.A. Tatulov(0). Optical waveguides with photochronic properties. IN: Sb. 3, 353, (RZhRadiot 10/76, 10Ye203)

281. Danilov, V.A., A.M. Zaytseva, L.N. Korennaya, T.I. Shevchik, and S.S. Shushkevich(87). Reception of discrete phase-pulse modulated optical signals under conditions of turbulence. Belorusskiy universitet. Vestnik. Seriya 1, no. 2, 1976, 39-43, (RZhF, 10/76, 10D1340).

282. Dembovetskiy, V.V. and A.N. Petrenko (0). Transmission of a laser beam through apertures and diaphragms. IN: Sb. 6, 46-53. (RZhRadiot 12/76, 12Ye314).

283. Demchuk, M.I., V.N. Denisenko, V.N. Khayminov, and A.F. Chernyavskiy (334). Digital filtration system of optical signals with 10^{-7} to 10^{-3} second duration. PTE, no. 5, 1976, 154-155.

284. Deryugin, L.N., A.S. Kuzali, and A.V. Chekan(0). Experimental study of thin-film waveguide spectrum analyzers with prismatic and diffraction radiation outputs. IN: Sb. 3, 348, (RZhRadiot, 10/76, 10Ye209).

285. Devyatkov, A.G., L.A. Rivlin, and A.F. Solodkov (0). Lightguide with quasi-compensated losses. IN: Sb. 3, 325, (RZhRadiot, 10/76, 10Ye177).

286. Dianov, Ye. M (0). Low loss glass fiber lightguides. IN: Sb. 3, 322. (RZhRadiot, 10/76, 10Ye180).

287. Dombrovskiy, V. (NS). Method for reducing onto a geodetic field a range, measured by a laser DME using a theodolite-laser DME-refractometer assembly. Geodezja i Kartografia, v. 25, no. 3, 1976, 177-185.

288. Doroshkin, A.A., K.I. Zemskov, A.A. Isayev, M.A. Kazaryan, V.G. Mikhaylik and G.G. Petrash (1). Display of dynamic information on large screens using an optical system with brightness amplification. KE, no. 11, 1976, 2515-2516.

289. Generalov, I.P., and V.F. Moskalenko (161). Sweep oscillator for an optical tracking system. IN: Tr. 11, 57-66, (RZhRadiot, 10/76, 10Ye229).

290. Gimadeyev, I. Kh., V.A. Baranov, N.A. Zaynashev, and O.O. Kazakov(0). Photoelectric converter for converting optical beam displacements into code. Author's certificate USSR, no. 494760, issued 16 March 1976. (RZhRadiot, 11/76, 11Ye249).

291. Goncharenko, A.M., V.K. Kiselev, and V.P. Red'ko (O). Obtaining and studying thin-film lightguides consisting of heavy crown glass. IN: Sb. 3, 336 (RZhRadiot, 10/76, 10Ye200).

292. Goncharenko, A.M., V.A. Karpenko, and Yu. D. Stolyarov (O). Propagation of optical beams in thin-film waveguides. IN: Sb. 3, 354, (RZhRadiot, 10/76, 10Ye205).

293. Goncharenko, A.M., V.A. Karpenko, Yu. D. Stolyarov, and V.F. Kholomeyev (O). Approximating a large format in a problem on the propagation of electromagnetic waves along a rectangular dielectric waveguide. IN: Sb. 3, 357, (RZhRadiot, 10/76, 10Ye179).

294. Gorokhov, Yu. G., A.P. Bryzgalov, and V.N. Ryabov (O). Electrooptic selector. Author's certificate USSR, no. 510686, issued 24 June 1976, (RZhRadiot, 12/76, 12Ye227).

295. Ignatov, I. (NS). Optical system for transmission of information. Suobsht. KhMIS, v. 27, no. 2, 1976, 23, (RZhRadiot, 10/76, 10Ye162).

296. Jakobcic, Z.(NS). Transmission of information over fiber lightguides. Telekomunikacije, v. 25, no. 1, 1975, 28-39, (RZhRadiot, 10/76, 10Ye193).

297. Karpenko, V.A. (O). Diffraction of electromagnetic waves by the open end of a thin-film waveguide. IN: Sb. 3, 356, (RZhRadiot, 10/76, 10Ye202).

298. Klejman, H. (NS). First Symposium on Lightguides and Their Application, Jablonna, Poland, 16-17 February 1976. Przeglad telekomunikacia, no. 3, 1976, 72-73, (RZhRadiot, 10/76, 10Ye175).

299. Kolesnikova, T.V., and N.I. Popov (134). Fabry-Perot interferometer as an instrument for measuring the Doppler shift in the frequency of a lidar signal reflected from hydrometeors. IN: Tr. 12, 162-165, (RZhF, 12/76, 12D1178).

300. Komar, V.G. and Yu. N. Ovechkis, (231). Color transmission of holographic images. TKiT, no. 9, 1976, 18-22.

301. Kozlov, O.A., Ye. S. Nezhevenko and O.I. Potaturkin (0). Pattern recognition in coherent-optical systems using contour etalons. Avtometriya, no. 6, 1976, 36-44.

302. Kuteva, Z.N.(0). Method for beam self-correction in a lightguide. Author's certificate USSR, no. 496539, issued 11 March 1976, (RZhRadiot, 11/76, 11Ye233).

303. Kuzali, A.S. and A.V. Chekan (14). Experimental study of a spectrum analyzer using a thin-film waveguide with a prismatic radiation output. KE, no. 11, 1976, 2457-2459.

304. Lavrushin, B.M. and Ye. S. Shemchuk (244). Prospects of using a semiconductor laser with e-beam pumping in television projection. KE, no. 12, 1976, 2605-2609.

305. Lazarev, L.P., M.M. Drozdov, V. Ye. Karasik, and S.V. Zabelin (24). Method for studying the correspondence between an object of analysis and its image in laser scanning imaging systems. IN: Tr. 9, 86-90. (RZhRadiot, 11/76, 11Ye273).

306. Luk'yanov, V.N., L.A. Rivlin, A.T. Semenov, N.V. Shelkov, and S.D. Yakubovich (0). Quantum optical integrated circuits with filtration of spontaneous background noise. IN: Sb. 3, 350, (RZhRadiot, 10/76, 10Ye170).

307. Mikheyechev, V.S. (0). Energy calculation for designing a geodetic optical DME. IN: Sb. 20, 69-71. (RZhRadiot, 10/76, 10Ye391).

308. Mikheyenko, A.V. (0). Transmission of a laser beam through lenses. IN: Sb. 6, 54-63, (RZhRadiot 12/76, 12Ye315).

309. Mosyagin, G.M., and V.B. Nemtinov (24). Defocusing in a coherent optical system. IN: Tr. 9, 78-80, (RZhF, 11/76, 11D1311).

310. Nezhevenko, Ye. S. and B.I. Spektor (0). Affine image conversion in optical systems with negative feedback. Avtometriya, no. 6, 1976, 14.

311. Osadchev, L.A., and T.K. Chekhlova (0). Study of plane anisotropic polystyrene optical waveguides. IN: Sb. 3, 358, (RZhRadiot, 10/76, 10Ye210).

312. Osyka, B.V. and B.P. Rusyn (0). Study of the operation of a raster-focon lightguide as a coordinating component. IN: Sb. 21, 135-137, (RZhRadiot, 12/76, 12Ye226).

313. Pakhomov, I.I., A.M. Khorokhorov, and A.F. Shirankov (24). Problem of constructing transmission systems of optical DME's and lidars. IN: Tr. 9, 18-20, (RZhRadiot, 11/76, 11Ye287).

314. Popescu, N. G., M.E. Opran, A. Narsanyi, V. Miclaus, and G. Mityko (NS). Two-way video-telephone communications system using an He-Ne laser beam as carrier. Studii si cercetari de fizica. 1976, v. 28, no. 4, 413-417. (RZhRadiot 12/76, 12Ye180).

315. Prokhorov, A.M., A.A. Spikhal'skiy, and V.A. Sychugov (1). Radiation of E and H waves on a corrugated segment of a diffusion waveguide. KE, no. 10, 1976, 2227-2231.

316. Rivlin, L.A. (141). Color image transmission via a multimode waveguide. KE, no. 11, 1976, 2479-2480.

317. Samokhvalov, I.V., G.G. Matviyenko, and A.I. Grishin (0). Laser probing of the sea surface using tangential incidence of the beam. IN: Sb. 18, 147-149, (RZhGeofiz, 10/76, 10B102).

318. Savatinova, I.T. Optical diffusion lightguides in glass. IN: Sb. 3, 326, (RZhRadiot, 10/76, 10Ye178).

319. Sinitsyn, V.A., I.A. Popov, and B.T. Litvinyuk (236). Electrooptical DME. Otkr. izobr., no. 39, 1976, 400224.

320. Stroganov, V.I., V.I. Samarin, and V.I. Trunov (0). Conversion of radiation in nonlinear multimode waveguides. IN: Sb. 3, 335, (RZhRadiot, 10/76, 10Ye201).

321. Svechnikov, S.V., and E.B. Kaganovich (0). Physical-technological designs of thin-film photodetectors for electrooptics. Visnyk AN UkrRSR, no. 5, 1976, 44-52, (RZhF, 10/76, 10D1338).

322. Varava, V.P., Ye.I. Yershov, and R.P. Tarasov (0). An equation for determining trajectories in lightguides by the index of refraction. Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki, v. 16, no. 4, 1976, 943-955, (RZhF, 11/76, 11D1328).

323. Vasil'yev, V.V., N.P. Gerasimenko, A.A. Nesterov, V.G. Pan'kin, V.P. Popov, and G.I. Tseytlin (0). Effect of irradiation by heavy particles on the properties of nitride and hydroxynitride thin-film waveguides. IN: Sb. 3, 339, (RZhRadiot, 10/76, 10Ye204).

324. Zlenko, A.A., A.M. Prokhorov, A.A. Spikhal'skiy, and V.A. Sychugov (0). Radiation of E- and H-waves in the corrugated part of thin-film and diffusion waveguides. IN: Sb. 3, 328, (RZhRadiot, 10/76, 10Ye196).

325. Zlenko, A.A., A.M. Prokhorov, A.A. Spikhal'skiy, V.A. Sychugov, and G.P. Shipulo (0). Reflection and conversion of H- and E- waves in a corrugated section of a waveguide. IN: Sb. 3, 346, (RZhRadiot, 10/76, 10Ye199).

326. Zolotov, Ye. M., V.A. Kiselev, V.M. Pelekhatyy, A.M. Prokhorov, and Ye. A. Shcherbakov (0). Diffraction and tunnel excitation of surface E- and H-waves in a diffusion waveguide. IN: Sb. 3, 329. (RZhRadiot, 10/76, 10Ye197).

C. Beam Propagation

1. In the Atmosphere

327. Aksenov, V.P., V.A. Banakh, and V.L. Mironov (78). Laser radiation intensity fluctuations caused by reflection in a turbulent atmosphere. KE, no. 10, 1976, 2266-2271.

328. Astafurov, V.G., and G.N. Glazov (0). Lidar aerosol-stratification detector. IN: Sb. 17, 59-72, (RZhGeofiz, 10/76, 10B85).

329. Balin, B.S., V.P. Galileyskiy, I.V. Samokhvalov, and V.S. Shamanayev (0). Study on the accuracy of various methods of lidar probing of an aerosol atmosphere. IN: Sb. 22, 34-45.

330. Balin, Yu. S., I.V. Samokhvalov and G.G. Matviyenko (78). Method for determining optical characteristics of the atmosphere. Otkr. izobr., no. 45, 1976, 538313.

331. Balin, Yu. S., I.V. Samokhvalov, and V.S. Shamanayev (0). Problem of determining the effective range of a lidar. IN: Sb. 17, 118-121, (RZhGeofiz, 10/76, 10B91).

332. Balin, Yu. S., Yu. M. Vorevodin, and G.G. Matviyenko (0). Study of lidar signals in the near zone by a polarization method. IN: Sb. 17, 122-127 (RZhGeofiz, 10/76, 10B93).

333. Balin, Yu, S., I.V. Samokhavalov, G.G. Matviyenko, A.I. Grishin, and Yu. M. Vorevodin (0). Experimental studies of the profile of the lidar relationship to the boundary layer of the atmosphere. IN: Sb. 18, 23-29, (RZhGeofiz, 10/76, 10B268).

334. Belov, V.F., G.N. Glazov, and G.M. Krekov (0). Asymptotics in calculating the fluctuations of a lidar signal by the Monte Carlo method. IN: Sb. 17, 86-93, (RZhGeofiz, 10/76, 10B88).

335. Belov, V.F., G.N. Glazov, and G.M. Krekov (0). Algorithms for calculating fluctuations in signal power during laser probing of clouds. IN: Sb. 18, 90-101, (RZhGeofiz, 10/76, 10B99).

336. Belov, V.V., G.M. Krekov, and G.A. Titov (0). Some findings on improving the efficiency of numerical experiments on laser probing of an atmospheric aerosol. IN: Sb. 18, 102-116, (RZhGeofiz, 10/76, 10B100).

337. Belov, V.V., G.N. Glazov, G.M. Krekov, and G.A. Titov (0). Laser probing of a broken cloud cover. IN: Sb. 22, 53-61.

338. Benditskiy, A.A., Yu. P. Vinogin, G.I. Rukman, and B.M. Stepanov (0). Possibility of measuring the parameters of high-power laser beams by means of scattering in the atmosphere. IN: Sb. 10, 39-44, (RZhF, 12/76, 12D1067).

339. Borisov, B.D., I.P. Doktorov, and V.A. Donchenko (0). Calibrating a lidar system for probing the atmosphere at the 2.36μ wavelength. IN: Sb. 17, 113-118, (RZhGeofiz, 10/76, 10B90).

340. Borovoy, A.G., B.V. Goryachev, V.A. Krutikov, and B.A. Savel'yev (0). Using the statistical characteristics of a multiply scattered field to solve inverse problems of optically dispersive media. IN: Sb. 22, 176-181.

341. Burlov, G.M. (160). Echo signal from low clouds and under-cloud haze [during optical ranging]. IN: Tr. 13, 34-47, (RZhGeofiz, 10/76, 10B84).

342. Chytil, B. (NS). Distribution of amplitude flucuations of a field of optical frequencies in a turbulent medium. Elektrotechnicky casopis, v. 27, no. 3, 1976, 201-212, (RZhF, 12/76, 12D874).

343. Danichkin, S.A., and I.V. Samokhvalov (0). Equation for optical ranging of extended dispersive media, taking into account the parameters of the lidar. IN: Sb. 17, 104-110, (RZhGeofiz, 10/76, 10B89).

344. Doktorov, I.P., V.A. Donchenko, V.Ye. Zuyev, V.V. Kostin, I.V. Samokhvalov and G.I. Tyul'kov. (0). Measuring the backscatter of 2.36μ laser radiation in the atmosphere. IN: Sb. 17, 111-113, (RZhGeofiz, 10/76, 10B250).

345. Galakhov, N.V., A.V. Yefremov, A.F. Zhukov, V.V. Reyno, and R. Sh. Tsvyk (78). Experimental study on intensity fluctuation of optical radiation propagating in the surface boundary layer during precipitation. FA10, no. 12, 1976, 1251-1260.

346. German, A.I., V.M. Zakharov, and O.K. Kostko (134). Prospects for the development and use of laser observation methods in an aerological network. IN: Tr. 12, 74-87. (RZhRadiot, 12/76, 12Ye263).

347. Glazov, G.N., G.M. Krekov, and V.N. Skorinov (0). Effect of temperature variations on the accuracy of measuring an aerosol profile by a single-frequency lidar. IN: Sb. 22, 61-68.

348. Glazov, G.N., and G.A. Titov (0) . Statistical characteristics of the coefficient of attenuation in a broken cloud cover. Part 1. Model with spheres of equal radius. IN: Sb. 22, 126-139.

349. Glazov, G.N., G.M. Igonin, and O.L. Tuzov (0). Analyzing the Doppler spectrum of a rough moving surface. IN: Sb. 22, 139-145.

350. Glazov, G.N., G.M. Igonin, and O.L. Tuzov (0). Potential accuracy for coherent Doppler measuring of flow velocity. IN: Sb. 22, 145-151.

351. Glazov, G.N. (0). Linear-system characteristics in a single scattering approximation. IN: Sb. 17, 52-59.

352. Glazov, G.N., and O.L. Tuzov (0). Classification of laser Doppler velocimeters. IN: Sb. 17, 73-79.

353. Glazov, G.N., G.M. Igonin, and O.L. Tuzov (0). Problems of coherent Doppler laser probing of boundary layer turbulence. IN: Sb. 17, 79-86.

354. Glazov, G.N., and V.A. Simakhin (0). Use of nonparametric statistical methods in lidar probing of the atmosphere. IN: Sb. 17, 140-148.

355. Godlevskiy, A.P., V.P. Lopasov, M.M. Makogon, and Yu. N. Ponomarev (0). Some operating characteristics of solid-state lasers with slightly-linear absorption material in the resonator. IN: Sb. 22, 151-159.

356. Gordin, M.P. and G.M. Strelkov (15). Bleaching of a polydispersional aqueous aerosol. KE, no. 11, 1976, 2427-2433.

357. Grigor'yev, V.M., and Ye.A. Kolyushenko (160). Signal formation in an optical radar sensor for measuring the altitude of the cloud ceiling, dependent on the geometry of the sensor and the optical state of the atmosphere. IN: Tr. 13, 23-33. (RZhGeofiz, 10/76, 10B68).

358. Gurevich, A.S., and V.L. Mironov (0). Optical measurements of the parameters of atmospheric turbulence. IN: Sb. 23, 5-37, (RZhGeofiz, 11/76, 11B301).

359. Ivlev, L.S., B.V. Kaul', I.V. Samokhvalov, and V.S. Shamanayev (0). Results of laser probing of an aerosol as a function of humidity. IN: Sb. 18, 16-22, (RZhGeofiz, 10/76, 10B130).

360. Kabanov, M.V., A.A. Pershin, Yu. A. Pkhalagov, and V.N. Uzhegov (0). Aerosol attenuation of radiation in the visible and infrared under conditions of coastal haze. IN: Sb. 18, 189-207, (RZhGeofiz, 10/76, 10B171).

361. Kaul', B.V., I.V. Samokhvalov, N.V. Kozlov, and V.N. Deyev (0). Laser probing of an aerosol in the upper atmosphere. IN: Sb. 18, 30-34, (RZhGeofiz 10/76, 10B269).

362. Kopytin, Yu. D., and S.S. Khmelevtsov (0). Optics in the propagation of intense optical pulses in a medium with discrete absorption centers. IN: Sb. 23, 86-102, (RZhF, 11/76, 11D1063).

363. Kostin, B.S., and I.E. Naats (0). Problems of the algebraization of integral equations in inverse problems of aerosol light scattering. IN: Sb. 18, 61-68. (RZhGeofiz, 10/76, 10B272).

364. Kostin, B.S., and I.E. Naats (0). Determining the size spectrum of aerosol particles from optical measurements by regularization methods. IN: Sb. 17, 94-98. (RZhGeofiz, 10/76, 10B159).

365. Kostin, B.S., and I.E. Naats (0). Some results of numerical studies on the solution of inverse problems of aerosol light scattering. IN: Sb. 22, 104-114.

366. Kostko, O.K., N.D. Smirnov, and V.V. Fadeyev (134). The possibility of measuring the density of the stratospheric ozone by lidar. KE, no. 11, 1976, 2392-2398.

367. Kozlov, V.S., M.V. Panchenko, B.A. Savel'yev, and V. Ya. Fadeyev (0). Dependence of the shape of the scattering indicatrix on the microphysical characteristics of a dispersive medium. IN: Sb. 22, 159-176.

368. Krekov, G.M., I.E. Naats, and V.N. Skorinov (0). Determining the temperature profile during laser probing of the atmosphere. IN: Sb. 22, 69-73.

369. Kulikova, N.V., and S.A. Mayev (220). The number of photon scatterings in a numerical modeling problem for artificial luminous formation of a finite optical thickness. IN: Tr. 14, 74-79, (RZhF, 12/76, 12D877).

370. Lukin, V.P., V.L. Mironov, V.V. Pokasov, and S.S. Khmelevtsov (O). Phase fluctuations of optical waves propagating in a turbulent atmosphere. IN: Sb. 23, 38-49. (RZhGeofiz, 11/76, 11B248).

371. Lukin, V.P., and V.V. Pokasov (O). Effect of atmospheric turbulence on the scintillation of the image of luminescent objects. IN: Sb. 23, 50-53, (RZhGeofiz, 11/76, 11B249).

372. Lukin, V.P., (O). Fluctuations in the field of a wave packet propagating in a turbulent atmosphere on a path with reflection. IN: Sb. 23, 137-142. (RZhGeofiz, 11/76, 11B255).

373. Makiyenko, E.V., and I.E. Naats (O). An algorithm for converting spectral optical measurements. IN: Sb. 22, 115-121.

374. Makiyenko, E.V., and I.E. Naats (O). Evaluating the size spectrum and index of refraction of an aerosol from spectral measurements. IN: Sb. 22, 121-126.

375. Makiyenko, E.V., and I.E. Naats (O). Local estimates of the evenness of distributions from optical measurements and their use in inverse problems of aerosol light diffusion. IN: Sb. 18, 49-60. (RZhGeofiz, 10/76, 10B97).

376. Makiyenko, E.V., and I.E. Naats (O). Study of the information capacity of lidar measurements during probing of an atmospheric aerosol. IN: Sb. 17, 11-16. (RZhGeofiz, 10/76, 10B156).

377. Makiyenko, E.V., and I.E. Naats (O). Method for optimum parameterization in problems of laser ranging of an atmospheric aerosol. IN: Sb. 17, 17-20. (RZhGeofiz, 10/76, 10B157).

378. Milyutin, Ye. R. and V.B. Savitskaya (O). The depolarization of light waves propagating in a turbulent atmosphere along inclined paths. Tr. 15, 174-181. (RZhRadiot 12/76, 12Ye265).

379. Mironov, V.L., G. Ya. Patrushev, V.V. Pokasov, and L.I. Shchavlev (O). Measuring intensity fluctuations in angularly-spaced optical beams. IN: Sb. 23, 62-68. (RZhGeofiz, 11/76, 11B251).

380. Mironov, V.L., G. Ya. Patrushev, and L.I. Shchavlev (O). Angular shift of an equisignal zone in a turbulent atmosphere. IN: Sb. 23, 69-77. (RZhGeofiz, 11/76, 11B252).

381. Mironov, V.L., and G. Ya. Patrushev (O). Frequency spectrum of fluctuations in the difference of amplitude levels of angularly spaced optical beams in the atmosphere. IN: Sb. 23, 78-85. (RZhGeofiz, 11/76, 11B253).

382. Naats, I.E. (O). Problems in the theory of remote determination of the microstructure of an atmospheric aerosol by lidar methods. IN; Sb. 17, 3-10. (RZhGeofiz, 10/76, 10B155).

383. Naats, I.E. (O). Interpretation of data from optical probing of an atmospheric aerosol in the infrared. IN: Sb. 18, 35-48. (RZhGeofiz, 10/76,10B96).

384. Naats, I.E. (O). Problems of interpreting the spectral variation of an aerosol coefficient of scattering. IN: Sb. 22, 74-83.

385. Naats, I.E. (0). Evaluating the evenness of distributions in inverse problems of aerosol light scattering. IN: Sb. 22, 84-92.

386. Parfenov, V.A., L.N. Pakhomov, V. Yu. Petrun'kin and V.A. Podlevskiy (29). Investigating the possibility of obtaining an extensive optical breakdown of the atmosphere. ZhTF P, no. 16, 1976, 731-734.

387. Popov, N.I. (134). A method of measuring the intensity of atmospheric turbulence using modulated gas laser light. IN: Tr. 12, 88-89. (RZhRadiot 12/76, 12Ye264).

388. Samokhvalov, I.V., A.V. Sosnin, and G.S. Khmel'nitskiy (0). Using a tunable CO_2 laser to probe various parameters of the atmosphere. IN: Sb. 17, 127-132. (RZhGeofiz, 19/76, 10B92).

389. Samokhvalov, I.V., and V. Ya Shaparev (0). Device for measuring distances to aerosol inhomogeneities in the atmosphere. IN: Sb. 17, 132-134. (RZhGeofiz, 10/76, 10B161).

390. Shamanayev, V.S., K.D. Shelevoy, and M.V. Trukhanenko (0). Airborne meteorological lidar for probing the atmosphere. IN: Sb. 18, 147-149. (RZhGeofiz, 10/76, 10B103).

391. Tulinov, G.F., Yu.P. Dudoladov, M.V. Obraztsov (0), M.L. Shanen, Zh. Mezhi (NS). Laser probing of the upper atmosphere in the central Arctic. DAN SSSR, v. 230, no. 4, 1976, 819-821.

392. Ushakov, G.V., and G.O. Zadde (396). System for recording the transparency of the atmosphere. Otkr. izobr., no. 36, 1976, 530298.

393. Veretennikov, V.V., and I.E. Naats (0). Problems of converting polarization measurements to characteristics of an atmospheric aerosol. IN: Sb. 17, 20-29. (RZhGeofiz, 10/76, 10B158).

394. Veretennikov, V.V., and I.E. Naats, I.V. Samokhvalov, and V.S. Shamanayev (0). Determining the profile of aerosol optical characteristics during lidar probing of the atmosphere. IN: Sb. 17, 98-103. (RZhGeofiz, 10/76, 10B160).

395. Veretennikov, V.V., B.S. Kostin, and I.E. Naats (0). Selecting the number of measurements during optical probing of an atmospheric aerosol. IN: Sb. 22, 92-104.

396. Veretennikov, V.V., and I.E. Naats (0). Numerical studies on methods for converting polydisperse indicatrixes in problems on optical probing of the atmosphere. IN: Sb. 18, 69-79. (RZhGeofiz, 11/76, 11B240).

397. Vorevodin, Yu. M., G.G. Matviyenko, and N.I. Yurga (0). Lidar measurements of wind velocity according to the displacement of aerosol inhomogeneities. IN; Sb. 18, 117-125. (RZhGeofiz, 10/76, 10B101).

398. Vorevodin, Yu. M., G.O. Zadde, G.G. Matviyenko, and I.V. Samokhvalov (0). Spatial inhomogeneities in the coefficient of back-scatter according to lidar probe data. IN: Sb. 22, 45-52

399. Yemaleyev, O.N., V.P. Lukin, V.V. Pokasov, V.M. Sazanovich, and S.S. Khmelevtsov (0). Optical measurements of the spectra of pulsations in the index of refraction in model convection. IN: Sb. 23, 54-61. (RZhGeofiz, 11/76, 11B250).

400. Zemlyanov, A.A., A.V. Kuzikovskiy, and S.S. Khmelevtsov (78). Problem of distortion of laser beams in cleared channels. IVUZ Fiz., no. 10, 1976, 13-20.

401. Zhukov, A.F., and S.S. Khmelevtsov (0). Study of intensity fluctuations of optical radiation scattered by an atmospheric aerosol. IN: Sb. 23, 103-106. (RZhF, 12/76, 12D870).

402. Zuyev, V.Ye., V.P. Lopasov and Yu.N. Ponomarev (78). The effect of a laser radiation field on the H_2O absorption line, broadened by collisions. DAN SSSR, v. 231, no. 5, 1976, 1106-1108.

403. Zuyev, V.Ye., G.G. Matviyenko, and I.V. Samokhvalov (78). Laser measurement of wind velocity using a correlative method. FAiO, no. 12, 1976, 1243-1250.

404. Zuyev, V.Ye., and G.G. Matviyenko (0). Fourth All-Union symposium on laser probing of the atmosphere. IVUZ Radiofiz, no. 12, 1976, 1915-1961.

405. Zuyev, V. Ye., G.M. Krekov, G.G. Matviyenko, and A.I. Popkov (0). Study of the polarization characteristics of backscatter signals during laser probing of clouds. IN: Sb. 17, 29-46. (RZhGeofiz, 10/76, 10B258).

406. Zuyev, V.Ye., G.M. Krekov, I.E. Naats, and V.N. Skorinov (0). Separation of the molecular and aerosol components of scattering during multi-frequency laser probing of the atmosphere. IN: Sb. 17, 46-52. (RZhGeofiz, 10/76, 10B270).

407. Zuyev, V.Ye., G.M. Krekov, M.M. Krekova, and I.E. Naats (0). Theoretical aspects of problems on laser probing of clouds. IN: Sb. 22, 3-33.

2. In Liquids

408. Ivanov, A.P. and I.I. Kalinin (3). Polarization structure of light pulse radiation scattered by an aqueous medium. FAiO, no. 10, 1976, 1075-1080.

409. Teslenko, V.S. (0). Experimental study of the kinetic energy characteristics of a bubble collapsing from laser breakdown in viscous liquids. ZhPMTF, no. 1, 1976, 109-117.

410. Vorob'yev, V.V., V.A. Kapitonov, B.A. Knyazev, and E.P. Kruglyakov (0). The Kerr constant of water. ZhPMTF, no. 1, 1976, 157-160.

3. Theory

411. Askar'yan, G.A., N.P. Datskevich, Ye.K. Karlova, G.P. Kuz'min, and S.M. Nikiforov (1). Aerostatics in laser and SHF beams. ZhETF P, v. 24, no. 6, 1976, 360-363.

412. Berger, N.K., I.A. Deryugin and Yu. N. Luk'yanov (401). Transmission of laser radiation through a dielectric layer. IN: Sb. 7, 18-25.

413. Borovoy, A.G., B.V. Goryachev, B.A. Savel'yev, and S.B. Mogil'nitskiy (0). Propagation of optical beams in statistically inhomogeneous dispersive media. IN: Sb. 23, 107-114. (RZhGeofiz, 11/76, 11B254).

414. Borovoy, A.G., B.V. Goryachev, and B.A. Savel'yev (0). Statistical characteristics of the intensity of narrow beams propagating in dispersive media with nonspherical particles. IN: Sb. 23, 115-122. (RZhF, 11/76, 11D1027).

415. Glazov, G.N., and G.M. Krekov (0). Applicability of an analytical solution to the radar equation under conditions of background noise from multiple scattering. IN: Sb. 18, 80-89. (RZhGeofiz, 10/76, 10B98).

416. Goryachev, B.V., and B.A. Savel'yev (0). Study of the statistical characteristics of a luminous flux propagating in a dispersive medium. IN: Sb. 23, 123-128. (RZhF, 11/76, 11D1030).

417. Lukin, V.P., and V.V. Pokasov (0). Determining the spectrum of fluctuations in the index of refraction from phase measurements. IN: Sb. 18, 160-170. (RZhGeofiz, 11/76, 11B256).

418. Lysikov, Yu. I. and I.A. Shamsutdinov (0). Anomalous behavior of the intensity of an optical flux in a medium with two types of absorption. PTE, no. 6, 1976, 171-173.

419. Polishchuk, Yu. M. (0). Vector model of the space-time structure of random optical fields. IN: Sb. 23, 129-136. (RZhF, 11/76, 11D982).

420. Ramazanova, G.S. (19). Propagation of a generalized Gaussian beam in a free space. IN: Tr. 1, 64-67. (RZhF, 11/76, 11D1144).

421. Shtyrkov, Ye. I., and Ye. A. Turiyanskiy (0). Generation and propagation of coherent light in spatially periodic structures. IN: Sb. 24, 166-204. (RZhRadiot, 11/76, 11Ye122).

422. Tkachuk, G.B. (19). Coherent scattering of resonance radiation. IN: Tr. 1, 22-27. (RZhRadiot, 10/76, 10Ye314).

423. Vlasov, S.N. and S.N. Gurbatov (8). On the theory of self-action of intensive light beams in smooth inhomogeneous media. IVUZ Radiofiz, no. 8, 1976, 1149-1155.

D. COMPUTER TECHNOLOGY

424. Antsygin, V.D., V.I. Belinicher, I.F. Kanayev, V.K. Malinovskiy, and B.I. Sturman (0). Spatial and time characteristics of optical storage in non-doped $LiNbO_3$ crystals. Avtometriya, no. 4, 1976, 7-13.

425. Barkan, I.B., Ye. V. Pestryakov, and M.V. Entin (0). Kinetics of pulsed holographic recording in electrooptical crystals. Avtometriya, no. 4, 1976, 13-18.

426. Belinicher, V.I. and V.K. Malinovskiy (0). Resonance in solids and optical storing of information. Avtometriya, no. 5, .976, 31-34.

427. Bugayev, A.A., T.G. Lanskaya, L.M. Sorokin, G.N. Mosina, Ye. I. Terukov, and F.A. Chudnovskiy (4). Stable memory using a phase-transformational interference reversible light reflector. DAN SSSR, v. 230, no. 3, 1976, 575-577.

428. Bukharin, N.A., V.A. Grigor'yev, N.A. Yesepkina, S.V. Pruss-Zhukovskiy, and S.A. Rogov (0). Employing multichannel ultrasonic modulators in optically matched filter systems. Avtometriya, no. 6, 1976, 18.

429. Gibin, I.S., M.A. Gofman, S.F. Kibirev, and P.Ye. Tverdokhleb (0). Study on one variation of holographic associative memory. Avtometriya, no. 6, 1976, 24.

430. Gibin, I.S., N.N. Kamenev, Yu. N. Tishchenko, and A.V. Trubetskoy (0). Prismatic optical systems of dual-coordinate acoustooptical light deflectors. Avtometriya, no. 6, 1976, 77-87.

431. Golosnoy, O.V., and K.P. Tsvetayev (161). Laser microrecording system with an optically controlled transparency. IN: Tr. 11, 140-143. (RZhRadiot, 10/76, 10Ye230).

432. Gromilin, G.I., G.Ye. Kasperovich, S.F. Kibirev, G.S. Prokopenko, and A.I. Chernyshov (0). Double-coordinate sweep deflector with quasi-optimal time control. Avtometriya, no. 6, 1976, 105-109.

433. Gurevich, S.B., and V.K. Sokolov (0). Optical methods of information processing. IN: Sb. 12, 5-25.

434. Gurevich, S.B., N.N. Il'yashenko, B.T. Kolomiyets, V.M. Lyubin, V.I. Nalivayko and V.G. Tsukerman (0). Chalcogenide glassy semiconductors as media for optical information processing devices. IN: Sb. 12, 117-134.

435. Gur'yev, L.P., V.M. Kunov, and V.G. Nechayev (0). Device for introducing holographic interferograms into a computer. IN: Sb. 25, 93-99. (RZhRadiot, 10/76 10Ye366).

436. Kaminskiy, V.V. (4). Comparative method of measuring the threshold energy density of (optical) recording. PTE, no. 5, 1976, 218-219.

437. Kapeniyeks, A.E., E.E. Klotin'sh, A.E. Krumin' and A.R. Shternberg (0). The status of the problem and an experiment on forming controlled transparencies from clear piezoceramic. Avtometriya, no. 4, 1976, 43-52.

438. Kasperovich, A.N., V.I. Nalivayko, V.I. Prokopenko, V.I. Solonenko, and V.A. Sterelyukhin (0). Computer-controlled liquid crystal transparency. Avtometriya, no. 6, 1976. 102-105.

439. Khaykin, B.Ye. (0). Operations, methods and structures of information processing in optical computers. IN: Sb. 12, 33-55.

440. Kompanets, I.N., G. Sh. Mtskeradze, and L.A. Orlov (0). Realization of an optoelectronic arithmetical unit using controlled transparencies. Avtometriya, no. 6, 1976, 44.

441. Koronkevich, V.P., V.G. Remesnik, V.A. Fateyev, and V.G. Tsukerman (0). Cineform optical elements from glassy chalcogenide semicondutor films. Avtometriya, no. 5, 1976, 3.

442. Kostsov, E.G., V.K. Malinovskiy, Yu. Ye. Nesterikhin, and A.N. Potapov (0). Characteristics of the physical realization of an operating optical memory. Avtometriya, no. 4, 1976, 3-6.

443. Kostsov, E.G., and A.I. Mishin (0). Photoelectrooptical logic elements. Avtometriya, no. 4, 1976. 28-34.

444. Krupitskiy, E.I., and G. Kh. Fridman (0). Use of coherent optics and holography in pattern recognition systems. IN: Sb. 12, 78-94.

445. Levin, G.G. (0). Algorithm for computer modeling of interference holographic devices. IN: Sb. 26, 77-80. (RZhRadiot, 10/76, 10Ye368).

446. Mantush, T.N. and A.V. Tarasov (0). Control system for experimental study on holographic memories. Avtometriya, no. 6, 1976. 54-59.

447. Mikaelyan, A.L. and V.I. Bobrinev (0). Holographic memory systems. IN: Sb. 12, 55-78.

448. Mitrofanova, L.A. (0). Research on techniques of local heating of thermoplastic registers. Avtometriya, no. 6, 1976, 109-111.

449. Mityakov, V.G., and V.B. Fedorov (209). Increasing the effective density of information storage in optoelectronic memories. KE, no. 11, 1976.,2358-2362.

450. Morozov, V.N. and Yu. M. Popov (1). Large-capacity holographic memory with synthesized aperture. KE. no, 11, 1976, 2325-2336.

451. Nezhevenko, Ye. S. and V.I. Khotskin (0). Series-parallel method of pattern recognition in coherent optical systems. Avtometriya. no. 6, 1976, 99-101.

452. Pavlova, N.V., V.P. Simakov, and K.P. Tsvetayev (161). Calculating the illumination losses in laser microrecording systems for holographic memories. IN: Tr. 11, 74-79. (RZhRadiot, 10/76 10Ye341).

453. Pochernyayev, I.M., V.L. Strizhevskiy, V.M. Klimenko, and F.N. Marchevskiy (51). The dynamic range of thermoplastic information registers. IN: Sb. 7, 40-50.

454. Polyakov, V.I. and O.A. Busel (299). Fast response shaper for address positioning of a laser beam. PTE, no. 6, 1976, 55-56.

455. Samartsev, V.V. and Ye I. Shtyrkov (38). Acoustooptical transformation of wave profiles in resonant echo-holograms. FTT, no. 10, 1976, 3140-3141.

456. Tverdokhleb, P.Ye. (0). Optical memory systems accessible by content. Avtometriya, no. 6, 1976. 3-14.

457. Vasil'yev, A.A., I.N. Kompanets, V.V. Nikitin (0). The controlled transparency in holographic information processing systems. IN: Sb. 12, 111-117.

458. Vlasov, N.A., E.L. Kashcheyev, T.N. Mantush, B.N. Pankov, and Ye. F. Pen (0). Functional control of integral photodetecting matrices. Avtometriya, no. 6, 1976, 73-77.

459. Voloshchenko, Yu. I., L.N. Deryugin, O.A. Kurdyumov, V. Ye Sotin, V.T. Frolkin, and I.V. Cheremiskin (0). Characteristics of a thin-film laser logic element. IN: Sb. 3, 340. (RZhRadiot, 10/76 10Ye222).

460. Voloshchenko, Yu.I., L.N. Deryugin, O.A. Kurdyumov, V. Ye. Sotin, V.T. Frolkin, and I.V. Cheremiskin (0). Modeling the dynamic characteristics of a laser logic element. IN: Sb. 3, 343. (RZhRadiot, 10/76,10Ye221).

461. Voronov, V.V., Yu.S. Kuz'minov, and V.V. Osiko (1). Optically-induced alterations of the index of refraction in ferroelectric crystals, and its use for developing a reversible holographic memory (Survey). KE, no. 10, 1976, 2100-2126.

462. V'yukhin, V.N. and V.V. Kurochkin (0). Design question on the control system of an acousto-optical deflector. Avtometriya, no. 3, 1976, 35-41.

463. V'yukhina, N.N., E.L. Kashcheyev, O.A. Luzhetskaya, T.N. Mantush, and B.N. Pankov (0). Page read-out system for holographic memories. Avtometriya, no. 6, 1976, 112-114.

464. Yakovuk, O.A., S.K. Novoselov, and Z.U. Borisova (12). Photostructural conversions in glasses of the As-Ge-S and As-Ge-Se systems. NM, no. 11, 1976, 1948-1950.

465. Zhdanov, V.G. (0). Anisotropic recording of optical information in photochromic glass. Avtometriya, no. 4, 1976, 90-94.

466. Zhdanov, V.G. and V.K. Malinovskiy (0). Measurement of magnetooptical properties and read-out of information stored on thin magnetic films. Avtometriya, no. 4, 1976, 102-106.

E. HOLOGRAPHY

467. Abakumov, B.M., N.D. Baykova, L.N. Gnatyuk, M.L. Guraru, and S.N. Marchenko (0). Holography on MnBi films in the infrared. IN: Sb. 10, 28-30. (RZhRadiot, 10/76, 10Ye378).

468. Anikin, A.A., and V.K. Malinovskiy (0). Use of characteristic curves for modeling a holographic experiment. Avtometriya, no. 4, 1976, 76-80.

469. Apostol, D., Z. Maris, S. Nicolau (NS). Holographic method for producing isopachs. Studii si cercetari de fizica, vol, 28, no. 2, 1976. 203-207. (RZhF 10/76, 10D1110).

470. Bachevskiy, R.S., and G.I. Gas'kevich (0). Study of various methods for obtaining holographic matching filters. IN: Sb. 21, 16-18. (RZhF, 12/76, 12D1120).

471. Baranskiy, F.G., Ye. F. Orlov, I.M. Pochernyayev, A.B. Romanovskiy, and D.A. Selivanovskiy (0). Study of the properties of thermoplastic recording. IN: Sb 12, 147-152.

472. Barkan, I.B., Ye. V. Pestryakov, and M.V. Entin (0). Research on pulsed holographic recording in single crystal $LiNbO_3$ doped with Fe. Avtometriya, no. 4, 1976, 18-22.

473. Barkan, I.B., V.P. Gavrilov, G.V. Krivoshchekov, and Ye. V. Pestryakov (0). Characteristics of recording dynamic lattices in Si. Avtometriya, no. 6, 1976, 69-73.

474. Barkhudarov, E.M., V.R. Berezovskiy, G.V. Gelashvili, M.I. Taktakishvili, T. Ya. Chelidze, and V.V. Chichinadze (0). Holography by means of a pulsed CO_2 laser and the possibility of using it for plasma diagnostics. IN: Sb 3, 377. (RZhRadiot, 10/76, 10Ye335)

475. Basov, N.G., V.V. Nikitin, V.D. Samoylov, and G.I. Semenov (0). Hologram reconstruction by means of an injection laser. IN: Sb 12, 94-111.

476. Berezin, P.D., M.K. Dyatlov, I.N. Kompanets, and K.N. Narzullayev (0). Holographic storage of information in photochromatic glasses using a He-Cd laser. Avtometriya, no. 3, 1976, 107-109.

477. Butusov, M.M. (0). Some problems of holographic optics. IN: Sb 25, 100-106. (RZhRadiot, 10/76, 10Ye327)

478. Chomat, M., D. Lezal, and I. Gregora(NS). Characteristics of reversible holographic recording in a thin amorphous medium of $As_{40}Se_{50}Ge_{10}$. Ceskoslovensky casopis pro fysiku, v. A26, no. 2, 1976, 164-167. (RZhRadiot, 10/76, 10Ye353).

479. De, S.T., A.V. Loginov, N.M. Maleyev, and A.I. Pavlikov (0). Gas ion lasers for holography. IN: Sb. 25, 6-22. (RZhRadiot, 10/76, 10Ye49).

480. Gan, M.A. (0). Computer modeling of the process of holographic correction of aberrations in optical systems. OiS, v. 41, no. 4, 1976, 652-656.

481. Ginzburg, V.M. (0). Image conversion at the input of holographic correlators. IN: Sb. 26, 9-14. (RZhRadiot, 10/76, 10Ye369).

482. Guether, R, and S. Kusch (NS). Device for reversible three-dimensional holographic recording. Patent GDR, no. 116975, and 116976, issued 12 December 1975. (RZhRadiot, 10/76, 10Ye372).

483. Iskin, V.D. (118). Methods of refining the parameters of holograms in lithium niobate crystals. IN: Tr. 3, 155-159. (RZhRadiot, 12/76, 12Ye351).

484. Ivakin, Ye. V., A.M. Lazaruk, I.P. Petrovich, and A.S. Rubanov.(0) Recording of dynamic holograms by gain saturation. IN: Sb. 3, 382. (RZhRadiot, 10/76. 10Ye358).

485. Kakichashvili, Sh. D.(0)Polarization effects in dynamic holography. IN: Sb. 3, 375. (RZhRadiot, 10/76, 10Ye334).

486. Kakichashvili, Sh. D. (0). Vector asymmetry of diffraction. IN: Sb. 3, 385. (RZhRadiot, 10/76, 10Ye337).

487. Kakichashvili, Sh. D., and R. Ye. Iosiliani (0). Hologram-like pictures by Fresnel diffraction of raster structures. IN: Sb. 3, 384. (RZhRadiot, 10/76, 10Ye357).

488. Kalestynski, A., and H. Smolinska (0). Reflection hologram with a high diffraction efficiency. Patent Poland, no. 73756, issued 9 December 1974. (RZhRadiot, 10/76, 10Ye363).

489. Kessler, S., and R. Kowarschik (NS). Effect of nonlinearity in the recording medium on the image configuration in Fourier holography, taking into consideration the degree of coherence and noise. Part 1. Wissenschaftliche Zeitschrift der Friedrich-Schiller-Universitaet Jena. Mathematisch-naturwissenschaftliche Reihe, v. 24, no. 5-6, 1975, 451-453. (RZhF, 12/76, 12D1098).

490. Kessler, S. (NS). Effect of the degree of coherence and noise on optical correlation filtration [in holography]. Wissenschaftliche Zeitschrift der Friedrich-Schiller-Universitaet Jena. Mathematisch-naturwissenschaftliche Reihe, v. 24, no. 5-6, 1975, 471-480. (RZhF, 12/76, 12D1100).

491. Kirillov, N.I. and Ye. M. Lyubimov (96, 400). New type of reflecting-transmitting holograms using photosensitive mirror layers. KE, no. 11, 1976. 2519-2521.

492. Klimenko, V.M., F.N. Marchevskiy, I.M. Pochernyayev, and V.L. Strizhevskiy (0). Effect of intermodulation noise on the dynamic range of phase transparencies. Avtometriya, no. 3, 1976, 94-100.

493. Kovachev, M., V. Suynov, and Ts. Mateeva (Bulgarians). Diffraction efficiency of holograms using discrete carriers. KE, no. 11, 1976, 2399-2406.

494. Kowarschik, R., and S. Kessler (NS). Effect of nonlinearity in the recording medium on the image configuration in Fourier holography, taking into consideration the degree of coherence and noise. Part 2. Wissenschaftliche Zeitschrift der Friedrich-Schiller-Universitaet Jena. Mathematisch-naturwissenschaftliche Reihe, v. 24, no. 5-6. 1975, 459-470. (RZhF, 12/76, 12D1099).

495. Kravets, A.N. and P.D. Berezin (O). Diffraction effectiveness of holograms using NaCl-Ca crystals. OiS, v. 41, no. 4, 1976. 634-636.

496. Kukarov, G.V., V.I. Protasevich and Yu. A. Pryakhin (O). The possibility of realizing an "invariant" holographic filter. Avtometriya, no. 3, 1976, 104-105.

497. Kurashov, V.N. and Yu. V. Khoroshkov (51). Optical image reconstruction of objects by measurement of the autocorrelation function in the far region. IN: Sb. 17, 35-39.

498. Leshchev, A.A., V.G. Sidorovich, and D.I. Stasel'ko (O). Correction of optical beams by three-dimensional dynamic holograms. IN: Sb. 3, 383. (RZhRadiot, 10/76, 10Ye336).

499. Levin, G.G(O) Characteristics of synthesizing holograms by means of a fast Fourier transform algorithm. IN: Sb. 26, 74-76. (RZhRadiot, 10/76, 10Ye361).

500. L'vova, N.A., and T.A. Makarova (0). Study of the information capacity of holograms of small objects. IN: Sb. 3, 380. (RZhRadiot, 10/76, 10Ye356).

501. Morozov, S.V. and A.A. Rizkin (0). The minimal frequency band in a holographic TV. TKiT, no. 12, 1976. 64-66.

502. Nemtinov, V.B. (24). Hologram display. IN: Tr. 9, 77-78. (RZhF, 11/76, 11D1297).

503. Nemtinov, V.B. (24). Group classification of holograms. INL Tr. 9, 80-81. (RZhF. 11/76, 11D1279).

504. Nesterov, Yu. V., V.G. Remesnik, A.B. Ryzhikov, and V.G. Tsukerman (0). Study of glassy films of the As-S system as a holographic recording medium. Avtometriya, no. 5, 1976, 9-12.

505. Odulov, S.G., Ye. N. Sal'kova, L.G. Sukhoverkhova, N.M. Krolevets, G.S. Pekar', and M.K. Sheynkman (5, 6). Dynamic holograms in CdS crystals doped with copper. UFZh, no. 10, 1976, 1720-1724.

506. Odulov, S.G., I.I. Peshko, M.S. Soskin, and A.I. Khizhnyak (5). Hologram recording on free carriers in Si using ultrashort pulses. UFZh, no. 11, 1976, 1869-1873.

507. Pupchenko, N.N. (0). X-ray holography (current status). IN: Sb. 26, 65-68. (RZhRadiot, 10/76, 10Ye348).

508. Rozhkov, O.V. (24). Using a holographic method to improve the accuracy of the display curve of a recording material. IN: Tr. 9, 74-77. (RZhRadiot, 11/76, 11Ye403).

509. Semenov, E.G. (0). Obtaining holographic topograms. IN: Sb. 26, 21-24. (RZhRadiot, 10/76. 10Ye360).

510. Sherepa, V.F., A.A. Borisyuk, and V.L. Serebrin (0). Digital modeling of holographic systems for data imaging. IN: Sb. 27, 123. (RZhRadiot, 10/76, 10Ye364).

511. Shtyrkov, Ye. I., and V.V. Samartsev (0). Evidence of a modulated structure while recording information by superluminescent states of atoms. IN: Sb. 3, 374. (RZhRadiot, 10/76, 10Ye338).

512. Shtyrkov, Ye. I., and V.V. Samartsev. (0). Reproduction of wave fields of a given configuration during coherent optical and acoustic excitation of multilevel systems. IN: Sb. 3, 386. (RZhRadiot, 10/76, 10Ye293).

513. Shtyrkov, Ye. I., and V.V. Samartsev (0). Dynamic resonance holography and optical superradiance. IN: Sb. 24, 398-426. (RZhRadiot, 11/76, 11Ye380).

514. Vovk, Yu. V., I.S. Gibin, Ye. F. Pen, and Yu. A. Shcheletkin (0). One method of recording holograms by using an acoustooptical light modulator. Avtometriya, no. 6, 1976. 95.

515. Zavoruyev, Yu. V. and I.N. Troitskiy (0). Analysis of the effect of the statistical characteristics of the hologram recording process on the quality of the reconstructed image. KE. no. 10, 1976. 2127-2134.

516. *Zemtsova, E.G. and L.V. Lyakhovskaya* (7). Investigating a method of copying three-dimensional holograms. OMP, no. 12, 1976, 51-54.

F. LASER-INDUCED CHEMICAL REACTIONS

517. Adamova, Yu. A., A.A. Bukharov, A.V. Pankratov, and A.N. Skachkov (0). Reaction of diborane with isobutylene under infrared laser radiation. Zhurnal neorganicheskoy khimii, v. 21, no. 4, 1976, 938-941. (RZhKh, 14/76, 14B1262).

518. Akulin, V.M., S.S. Alimpiyev, N.V. Karlov, and L.A. Shelepin (1). Radiation coherence mechanism in the interaction of laser radiation with matter, and it's applications. IN: Tr. 10, 141-155.

519. Alimpiyev, S.S. (1). Study of the effects of coherent interaction of pulsed infrared radiation with molecular gases. IN: Tr. 10, 92-133.

520. Ambartsumyan, R.V. Yu. A. Gorokhov, and N.P. Furzikov, (72). Study of the absorption of UF_6 vapors in the 360-420 nm range by a intra-resonator laser absorption spectroscopy method. KE, no. 10, 1976, 2293-2295.

521. Balykin, V.I., V.S. Letokhov, V.I. Mishin, and V.A. Semchishen (72). Laser detection of low concentrations of uranium atoms, formed as a result of a chemical reaction. ZhETF P, v. 24, no. 8, 1976, 475-478.

522. Gochelashvili, K.S., N.V. Karlov, N.A. Karpov, N.I. Mdinaradze, Yu. N. Petrov and A.M. Prokhorov (1). Laser separation of isotopes using filtration diffusion. ZhTF P, no. 16, 1976, 721-726.

523. Gorlevskiy, V.V., A.N. Orayevskiy, A.V. Pankratov, A.N. Skachkov, and V.M. Shabarshin (1). Threshold effects in laser chemical reactions. KhVE, no. 5, 1976, 443-446.

524. Karlov, N.V., V.V. Krynetskiy, V.A. Mishin, A.M. Prokhorov, A.D. Savel'yev, and V.V. Smirnov (1). Separating Sm isotopes by a two-stage photoionization method. KE, no. 11, 1976, 2486-2487.

525. Karlov, N.V., B.B. Krynetskiy, S.V. Kuz'min, V.A. Mishin and A.M. Prokhorov (1). Determining the populations of metastable levels in Gd vapors by laser spectroscopy, using e-beam evaporation of metal. KE, no. 11, 1976, 2505-2508.

526. Karlov, N.V., R.P. Petrov, and A.M. Prokhorov (0). Selective evaporation of frozen gases by laser radiation. ZhETF P, v. 24, no. 5, 1976, 289.

527. Klimov, V.D., V.A. Kuz'menko, and V.A. Legasov (0). Chemical reactions of SF_6 with H_2, O_2, SO_2, and HI under the action of pulsed CO_2 laser radiation. Zhurnal neorganicheskoy khimii, v.21, no. 8, 1976, 2100-2105. (RZhF, 12/76, 12D1047).

528. Kuzentsov, A. Ya, and A.A. Kuznetsov (0). Violation of photochemical laws in photochromic solids. IN: Sb. 28, 121-122. (RZhKh, 18/76, 18B1305).

529. Lugovoy, V.N., and V.N. Strel'tsov (0). Selective excitation of molecular vibrations in a field with time-varying frequency. OiS, v.41, no. 4, 1976, 528-534.

530. Papousek, D., P. Engst, and M. Horak (NS). Selective stimulated chemical reactions by infrared lasers. Chem. listy, v. 70, no. 1, 1976, 113-124. (RZhKh, 14/76, 14B1261).

531. Sarkisov, B.V., N.M. Milyayeva, V.A. Shkoda-Ul'yanov, and B.V. Anikeyev (136). Recombination of Mo^{6+} under laser and electron irradiation. Ukrainskiy khimicheskiy zhurnal, no. 9, 1976, 936-938.

532. Sidel'nikov, V.N., A.K. Petrov, N.N. Rubtsova, Yu. N. Samsonov, and Yu. N. Molin (0). Use of laser radiation for conducting gas-phase thermal reactions in homogeneous conditions. AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriya Khimiya, no. 5, 1976, 33-36.

533. Slesarev, A.I. and V.S. Kortov (42). Anomalous exoemission of BeO stimulated by laser radiation. ZhTF P, no. 16, 1976, 755-756.

G. INSTRUMENTATION AND MEASUREMENT

1. Measurement of Laser Parameters

534. Alekseyev, S.G., A.I. Bagimov, M.M. Gel'man, A.F. Kotyuk, D.G. Levchenko, and V.A. Milovidov (0). System for studying the statistical characteristics of laser radiation fluctuation. IT, no. 10, 1976, 19-21.

535. Arkhipov, V.M., and V.A. Rozuvanova (7). Use of a Fabry-Perot scanning interferometer to study the fine structure of laser radiation. OMP, no. 10, 1976, 56-67.

536. Berger, N.K. and V.V. Novokhatskiy (0). Measurement of gain in a c-w gas laser. Avtometriya, no. 3, 1976, 76-78.

537. Bessmel'tsev, V.P., V.N. Burnashov and V.V. Vorob'yev (0). System of limit control for laser frequency stabilization. Avtometriya, no. 3, 1976, 102-103.

538. Bikmukhametov, K.A. and V.I. Bobrik (0). Length stabilization of a Fabry-Perot interferometer by gas laser radiation. IT, no. 10, 1976, 31-32.

539. Bliznyuk, V.V, and A.M. Gutkin (19). Photometric measurement of small changes in a luminous flux by means of a direct-current reference source. IN: Tr. 1, 78-81. (RZhF, 11/76, 11D1491).

540. Bokrinskaya, A.A., V.S. Vuntesmeri, and V.G. Maksyutin (106). A method for measuring the difference in phase of two coherent signals. Author's Certificate USSR, no. 471551, December 26, 1975. (RZhRadiot, 12/76, 12Ye247P).

541. Domnin, Yu. S., V.M. Tatarenkov, and P.S. Shumyatskiy (0). Absolute measurements of laser frequencies in the submillimeter and IR ranges. IT, no. 10, 1976, 59-61.

542. Gladyr', V.I., and Ye. B. Shelemin (0). Characteristics of wideband recording of the space-time structure of radiation. IN: Sb. 10, 64-66. (RZhF, 11/76, 11D1470).

543. Gladyr', V.I., V.V. Yegorov, V.M. Murugov, I.A. Pan'shin, Ye. A. Podpalyy, and Yu. N. Sheremet'yev. (0). Device based on thin magnetic films for recording the spatial distribution of energy density of infrared radiation. Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, no. 4, 1976, 252-256. (RZhF, 12/76, 12D1071).

544. Goryunova, T.D., B.G. Zyabrev, V. Ye. Kolesnikov, I.I. Lushchikov, G.I. Rukman, N.V. Shalomeyeva, and Ye. B. Shelemin (0). Evaluating a method for calibrating a meter for measuring laser radiation power in the infrared. IN: Sb. 10, 45-48. (RZhF, 11/76, 11D1259).

545. Gryaznov, M.I., Yu. M. Gryaznov, A.A. Chastov (0). Measuring the parameters of optical pulses by an integral method. IT, no. 7, 1976, 33-35.

546. Il'in, V. Ye., L.I. Petrova, and Ye. P. Semenov (7). Quick method for determining the radiation density of CO_2 lasers. OMP, no. 10, 1976, 61-62.

547. Kaminskiy, A.A., N.V. Karlov, S.E. Sarkisov, O.M. Stel'makh and V.Ye. Tukish(1, 13). Precise measurement of generated wave length and continuous tuning of laser radiation using $YAlO_3$-Nd^{3+} at the $^4F_{3/2} \rightarrow {}^4I_{13/2}$ transition. KE, no. 11, 1976, 2497-2499.

548. Khaskin, I. Ya., V.G. Medresh, I.N. Yondenko and A.P. Krivchikov (0). Continuous measurement of laser pulse length. IT, no. 8, 1976, 24-26.

549. Kir'yanov, Yu. F., G.G. Kochemasov, and V.D. Urlin (0). Study of radiation divergence in a laser with a nonuniform active medium in a gain saturation regime. KE, no. 10, 1976, 2161-2170.

550. Klimkov, Yu. M., N.F. Pedora, V.G. Abramova, and I.I. Kiselev (7). Calculating the index of refraction of optical materials for laser wavelengths. OMP, no. 11, 1976. 38-39.

551. Kovalenko, Ye. S. and A. Ye. Mandel' (251). Stabilization of emission characteristics of a YAG:Nd laser in a mode-locked regime. ZhTF. no. 10, [illegible] 2200).

552. Krasovskiy, V.M., L.S. Kremenchugskiy, A.K. Semenov, A. Ya. Shul'ga and V.A. Shcheredin (5). Matrix pyroelectric detector for studying lasers. PTE, no. 4, 1976, 216-218.

553. Lisyanskiy, B. Ye., T.P. Malysheva, P.A. Morozov, S.P. Morozova, G.I. Rukman, and V.A. Sholokhov (0). Display device for spatial distribution of nanowatt levels of CO_2 laser radiation. IN: Sb. 10, 67-74. (RZhF, 11/76, 11D1256).

554. Lisyanskiy, B. Ye., P.A. Morozov, and S.P. Morozova (0). Device for measuring the coordinates and dimensions of longwave laser beams. IN: Sb. 10, 75-77. (RZhF, 11/76, 11D1257).

555. Lushchikov, I.I., P.A. Morozov, S.P. Morozova, T.P. Perfilova, and V.A. Sholokhov (0). Time selection of the video signal in meters for measuring the spatial distribution of laser radiation. IN: Sb. 10, 83-87. (RZhF, 11/76, 11D1258).

556. Malysheva, T.P., P.A. Morozov, and S.P. Morozova (0). Analyzing the characteristics of high-speed scanning devices in laser displays. IN: Sb. 10, 78-82. (RZhF. 11/76, 11D1255).

557. Novokhatskiy, V.V. and Yu. Ye. Studenikin (0). Measuring the parameters of a laser beam during realignment of the resonator mirrors. IN: Sb. 6, 88-93. (RZhRadiot, 12/76, 12Ye249).

558. Petrova, L.I., Ye. P. Semenov, V. Ye. Il'in, Ye. S. Bukova, V.G. Dorofeyev, V.A. Kareva, and V.S. Makin (7). Using a heat-resistant camera shutter to study the energy distribution in the radiation field of c-w CO_2 lasers. OMP, no. 11, 1976, 53-55.

559. Shur, V. L. and I. Sh. Etsin (0). The effect of laser beam divergence on the accuracy of measurements in a two-beam interferometer. Avtometriya, no. 3, 1976, 90-94.

560. Sikora, A. V. and V. A. Levin (0). Simple electromagnetic converter for laser alignment. IT, no. 10, 1976, 36-37

561. Slavnov, S. G. (0). Method and device for controlling pulsed laser emission. PTE, no. 5, 1976, 209-211.

562. Solov'yev, V. S. and A. K. Toropov (0). On the design of a control system for measuring the frequency characteristics and parameters of a laser spectrum. IT, no. 9, 1976, 14-16.

563. Zuyev, V. S., K. S. Korol'kov, V. N. Netemin, O. Yu. Nosach, and Ye. P. Orlov (1). Study of the change of the refractive index in the active medium of a laser by an optical delay method which uses the laser's own radiation. KE, no. 11, 1976, 2434-2445.

2. Miscellaneous Measurement Applications

564. Abdullayev, N. S., and B. S. Umarov (0). Study of phonon spectra of crystals.IN: Sb. 2, 183 (RZhRadiot, 10/76, 10Ye310)

565. Absalyamov, R. A., R. Z. Nabiullin, G. B. Melamud, V. N. Mironov, and V. N. Yastrebov (140). Reception system for a laser Doppler velocimeter. IN: Tr 16, 73-76. (RZhRadiot 12/76, 12Ye379)

566. Akimov, Yu. A., A. L. Auslender, V. M. Ginzburg, F. Ya. Nikolayev, and B. M. Stepanov (0). Multichannel holographic correlator. IN: Sb. 26, 6-8. (RZhRadiot, 10,76, 10Yc375)

567. Aleksandrov, Ye. B. and V. S. Zapasskiy (0). Millisecond sensitivity of polarimetric measurements. OiS, v. 41, no. 5, 1976, 855-858.

568. Alekseyev, V. A. and L. P. Yatsenko (1). Form of power resonances in ring lasers. KE, no. 11, 1976, 2407-2412.

569. Al'perovich, L. I., Kh. I. Kosimov, and V. V. Shabalov (0). Use of energy migration for measuring the cross-section of two-photon absorption in pure liquids. OiS, v. 41, no. 5, 1976, 879-880.

570. Al'shits, Ye. I., R. I. Personov and B. M. Kharlamov (0). Linear structure of phosphorescence spectra of organic molecules in solid solutions under $T_1 \leftrightarrow S_0$ laser excitation. The nature of wide phosphorescence bands. OiS, v. 41, no. 5, 1976, 803-811.

571. Al'tshuler, B. B., V. B. Karasev, and S. F. Sharlay (30). Laser with synchronized nanosecond and picosecond pulses for studying processes in an intense optical field. PTE, no. 5, 1976, 211-213.

572. Areshev, I. P., A. M. Danishevskiy, S. F. Kochegarov, and V. K. Subashiyev (4). Two-photon selective filling of energy troughs in PbTe and discontinuities in the direction of polarization of recombination radiation. ZhETF P, v. 24, no. 11, 1976, 594-598.

573. Batishche, S. A., V. A. Mostovnikov, and A. N. Rubinov (3). High-resolution spectroscopy of low-absorption objects using the competitive beam method. KE, no. 11, 1976, 2516-2519.

574. Bayev, S. G., V. P. Koronkevich, V. I. Nalivayko, and V. A. Khanov (75). Interferometer for controlling recording media phase changes. KE, no. 10, 1976, 2297-2300.

575. Birman, A. Ya., S. A. Savranskiy, A. F. Savushkin, and B. A. Shokin (0). Dynamics of opposed wave competition in a ring laser. KE, no. 12, 1976, 2576-2580.

576. Boldyreva, I. S., V. A. Butorin, R. M. Bychkov, V. I. Volkov, V. P. Koronkevich, and Ye. S. Nezhevenko (0). Controlling the dimensions of parts with complex forms. Avtometriya, no. 3, 1976, 67-72.

577. Bondarenko, A. N., Yu. B. Drobot, V. A. Konstantinov, G. V. Krivoshchekov, and V. P. Trotsenko (0). Measurement of small acoustical vibrations by optical methods. Avtometriya, no. 3, 1976, 83-90.

578. Boytsov, V. F. (0). The effect of transverse gain distribution in an active medium on diffraction frequency splitting of opposed wave generation in ring lasers. OiS, v. 41, no. 5, 1976, 864-868.

579. Bryushkova, T. I., Ye. M. Dianov, Ye. P. Nikitin and A. M. Prokhorov (1). Measurement of small absorption coefficients in glasses by a calorimetric method. KE, no. 11, 1976, 2500-2503.

580. Burnashev, M. N. and V. Ye. Privalov (163). Gas ring laser in a gain modulation regime. KE, no. 12, 1976, 2581-2590.

581. De, S. T., A. G. Kozachok, A. V. Loginov, and Yu. N. Solodkin (0). Measuring the parameters of surface relief by a method of dual-frequency holographic interferometry. IN: Sb 25, 23-30. (RZhRadiot, 10/76, 10Ye331)

582. De, S. T., A. G. Kozachok, A. V. Loginov, Yu. N. Solodkin, and M. P. Tsapenko (0). Method of determining surface relief by a method of dual-frequency interferometry. IN: Sb 25, 31-40. (RZhRadiot, 10/76, 10Ye330)

583. Dmitriyev, A. K., V. A. Sedel'nikov, A. A. Knyazev, G. M. Kornoukhov, L. A. Mel'nikov, E. M. Rabinovich, and K. S. Roman'ko (99). Dual-beam Mach-Zender laser interferometer with stabilized operating point. PTE, no. 5, 1976, 206-207.

584. Dubnishchev, Yu. N., V. A. Pavlov, A. N. Skurlatov, V. S. Sobolev, A. A. Stolpovskiy, and T. A. Sheloput (0). Superimposed noise in a laser Doppler velocimeter, and ways to reduce it. Avtometriya, no. 3, 1976, 53-60.

585. Fiala, P. (NS). Motion picture holographic method of interferometric study of fast-flowing processes. KE, no. 12, 1976, 2547-2551.

586. Galanov, Ye. K. and G. N. Potikhonov (7). Magnetooptical properties of IR glass. OMP, no. 12, 1976, 32-34.

587. Gal'pern, A. D., I. M. Kliot-Dashinskaya, D. I. Stasel'ko and A. L. Churayev (0). Intensity distribution in a diffraction pattern using a random amplitude mask. OiS, v. 41, no. 5, 1976, 870-876.

588. Gamanyuk, T. M., Yu. V. Zharkov, and O. N. Kurenkova (0). Some experimental results of determining the surface state of semiconductor structures according to holographic interferograms of shift. IN: Sb.26, 19-20. (RZhRadiot, 10/76, 10Ye344)

589. Geras'kin, V. V., A. A. Blistanov, and A. N. Saltiykov (152). Device for measuring the scattering of light using crystals. PTE, no. 5, 1976, 204-205.

590. Gol'dfarb, I. S. and T. M. Lozovskaya (7). Method of measuring the light transmission of fiber optic lightguides without disturbing the integrity of the objects under investigation. OMP, no. 12, 1976, 44-47.

591. Gural', T. I., O. A. Yershov, A. G. Sorits, and B. A. Fomenko (0). Recording variations in the density of a stratified liquid by means of holographic interferometry. IN: Sb. 26, 25-26. (RZhRadiot, 10/76, 10Ye345).

592. Gusev, V. G. and L. N. Popov (47). Narrowing the bands of a Fabry-Perot interferometer by introducing an active element. PTE, no. 5, 1976, 207-209.

593. Holographic methods in the national economy. TKiT, no. 8, 1976, 91-93.

594. Ishchenko, Ye. F., V. N. Kuryatov, and O. S. Yukarov (19). Sensitivity of a ring laser to a magnetic field. IN: Tr 1, 60-63. (RZhF, 11/76, 11D1157)

595. Izakson, G. M., and V. A. Yakovlev (0). V-shaped interferometer with a wide distance between the plates, for gasdynamic studies. IN: Sb 29, 37-40. (RZhF, 12/76, 12D1203)

596. Janowska, B. and ·. Szydlowska (NS). Holographic recording of displacements. Postepy fizyki, no. 4, 1976, 359-366.

597. Khanov, V. A. (78). Research on vibration-isolated construction of lasers designed for interference measurements. PTE, no. 5, 1976, 216-218.

598. Kleshchel'skiy, L. G., I. N. Kuligin, and I. V. Salamov (0). Interferometer for measuring amplitude-phase transmissibility of optical elements. PTE, no. 6, 1976, 158-159.

599. Klimov, A. A. (0). Laser TV microscope. TKiT, no. 7, 69-71.

600. Knyazev, I. N., Yu. A. Kudryavtsev, N. P. Kuz'mina, V. S. Letokhov, V. G. Movshev, and A. G. Molchanov (1,72). Photoluminescence of alkali-halide crystals subjected to N_2 laser radiation in the vacuum UV. FTT, no. 12, 1976, 3593-3598.

601. Kofsman, Sm M., Ye. A. Kopilevich, O. A. Potapov, and L. A. Shal'nova (0). Further developments in optical methods of processing seismic data. IN: Sb.30, 11-15.

602. Korolev, F.A., L.Ye. Grin', P.V. Korolenko, V.V. Lebedeva, A.I. Odintsov and N.E. Sarkarov (0). Losses in a laser resonator with inclined Fabry-Perot etalon, used as a frequency selector. ZhPS, v. 25, no. 6, 1976, 990-994.

603. Kolomiyets, B.T., V.M. Lyubin and V.P. Shile (4). Photoresist. Otkr. izobr., no. 47, 1976, 489449.

604. Kononenko, V.F. and V.A. Plotnikov (0). Use of an He-Ne laser-coordinate photodiode system for recording angular displacements. KE, no. 10, 1976, 2296-2299.

605. Kolerov, A.N. and G.D. Petrov (0). Study of plasma in the far IR region using a highly sensitive laser interferometer. OiS, v. 41, no. 5, 1976, 741-743.

606. Kozachok, A.G. (0). Holographic measuring systems: a new class of information-measuring systems. IN: Sb. 25, 3-5. (RZhRadiot, 11/76, 11Ye376).

607. Kozachok, A.G., G.Ya. Kezerashvili, Yu. A. Rakushkin, and D.N. Solodkin, (0). Measuring deformations and stresses by methods of holographic interferometry. IN: Sb. 25, 58-75. (RZhRadiot, 10/76, 10Ye329).

608. Kozlov, V.S., M.V. Stabnikov, V.I. Tarakanov, and M.A. Tombak (0). Holographic discharge chamber. IN: Sb. 2, 189. (RZhRadiot, 10/76, 10Ye374).

609. Kramer, D. (NS). Use of lasers in dredgers. Seewirtschaft, no. 9, 1976 533-535.

610. Kutovoy, V.D., G.D. Petrov, P.A. Samarskiy and S.I. Tregubov (140). Interferometry of a heterogeneous low-temperature plasma. TVT, no. 5, 1976, 1118-1120.

611. Kutsak, A.A. and Ye.Yu. Strekalovskaya (0). The effect of wide-band noise on the spectral characteristics of a beat signal in a ring laser. ZhPS, v. 25, no. 4, 1976, 625-631.

612. Kuzi anov, V.A. and O.A. Potapov (0). Conversion and analysis of marine gravimetric data using a laser system. IN: Sb 30 120-128.

613. Malakhov, Yu. I., and S.F. Simakov (19). Apparatus using a solid-state laser to measure lifetimes of atomic and ion states of refractory metals. IN: Tr. 1, 99-102. (RZhF, 11/76, 11D1429).

614. Mankevich, V.N., A.G. Nepokoychitskiy, and P.A. Skiba (0). Laser + electric discharge light source for spectral microanalysis. ZhPS, v. 25, no. 4, 1976, 719-722.

615. Matorin, I.I. and Ya.I. Khanin (8). Interaction of saturating opposed waves in a ring laser. KE, no. 10, 1976, 2221-2226.

616. Mazurenko, Yu.T. and V.S. Udal'tsov (0). Nanosecond pulsed laser fluorometer. ZhPS, v. 25, no. 4, 1976, 751-755.

617. Melamud, G.B., R.A. Absalyamov, N.N. Glebova, R.Z. Nabiullin, V.N. Mironov and V.N. Yastrebov (140). Study of a laser Doppler fluid velocimeter. IN: Tr. 16, 64-68. (RZhRadiot 12/76, 12Ye376).

618. Miler, N., M. Chomat, I. Gregora (NS). Stroboscopic holography. Jemna mekhankia a optika, no. 10, 1976. 290-296.

619. Moroz, E.V. (0). Holographic methods for studying the decay and fractionation of fuel jets. IN: Sb. 26, 27-31. (RZhRadiot, 10/76, 10Ye339).

620. Movsesyan, M.Ye., Zh.O. Ninoyan, G.S. Sarkisyan and S.O. Sapondzhyan (0). Polarization of potassium resonance lines. OiS, v. 41, no. 4, 1976, 525-527.

621. Nekrasov, A.G. and Yu.S. Sereda (0). Evaluating the morphological similarities of amorphous objects by a spatial filtration method. OiS, v.41, no. 5, 1976, 898-900.

622. Pavlygin, G.N., and S.V. Ross (0). Method for determining the volume of objects according to data from measuring their holographic image. IN: Sb. 26, 41-43. (RZhRadiot, 10/76, 10Ye342).

623. Pesin, M.S. and I.L. Fabelinskiy (1). Picosecond spectroscopy and study of fast-flowing processes. UFN, v. 120, no. 2, 1976, 273-307.

624. Postoyenko, Yu.K. and Ye.N. Utkin (0). Questions of accuracy in processing a Doppler signal. Avtometriya, no. 3, 1976, 61-67.

625. Potapov, V.K., V.G. Movshev, V.S. Letokhov, I.N. Knyazev, and T.I. Yevlasheva (72,92). Using a hydrogen VUV laser for studying photoionization processes of molecules in a mass spectrometer. KE, no. 12, 1976, 2610-2612.

626. Presnyakov, Yu.P., and V.Ya. Tsarfin (0). Errors in measuring the sizes of microparticles according to their holographic images. IN: Sb. 26. 35-40. (RZhRadiot, 10/76, 10Ye340).

627. Privalov, V.Ye. (163). Technical fluctuations of gas laser radiation to be used in metrology. IN: Tr. 17, 8-11. (RZhRadiot, 11/76, 11Ye71).

628. Protsenko, V.N., S.N. Smirnova, Yu.P. Persnyakov and N.G. Vlasov (0). Device for measuring deformation of diffusely-reflecting objects. Author's Certificate USSR, no. 487297, December 23, 1975. (RZhRadiot 12/76, 12Ye340 P).

629. Rakushin, Yu.A., and Yu.N. Solodkin (0). Methods for interpreting holographic interferograms. IN: Sb. 25, 41-57. (RZhRadiot, 10/76, 10Ye355).

630. Rehak, V. (NS). Dye lasers and their use in electron spectroscopy of organic molecules. Chem. listy, v. 70, no.1, 1976, 1-16. (RZhKh, 13/76, 13B1311)

631. Sardyko, V.I. (0). Study of a ring laser with amplitude anisotropy, a Faraday cell and a natural optical rotator. ZhPS, v. 25, no. 4, 1976 610-617.

632. Seleznev, V.G., A.N. Arkhipov, and T.V. Ibragimov (0). Using a holographic interferometer for determining residual stresses. ZL, no. 6, 1976, 739-741.

633. Semenov, E.G., and V.Ya. Tsarfin (0). Use of laser amplifiers in pulsed holography. IN: Sb. 26, 44-48. (RZhRadiot, 10/76, 10Ye349).

634. Shur, V.L. (163). Phase-molulated laser interferometer at a frequency of 30 megahertz. IN: Tr. 17, 11-13. (RZhF, 11/76, 11D1433).

635. Snezhko, Yu.A. and V.P. Tychinskiy (161). Laser profilograph. PTE, no. 4, 1976, 274.

636. Spornik, N.M. (0). Method for quantitative evaluation of inhomogeneities in transparent media. Author's certificate USSR, no. 494722, issued 23 February 1976. (RZhFoto, 9/76, 9.46.186).

637. Stary, V. (NS). Use of lasers for forming thin layers and for analyzing the composition of matter. Jemna mekhanika a optika, no. 8, 1976, 230-255, concluded in no. 9, 1976 260-264.

638. Suran, V.V. (0). Observations of singly and doubly ionized atoms under multiphoton ionization of Sm. OiS, v. 41, no. 5, 1976, 901-902.

639. Telesnin, R.V., V.G. Kleparskiy, and V.V. Randoshkin (2). Local concentration of the effective mass of domain boundaries in ferrite garnet films. ZhETF P, v. 24, no. 10, 1976, 537-540.

640. Varva, Ya., G.Lonchar, and P. Fiala (0). Effects of a rough surfaces in holographic interferometry. IN: Sb. 3, 376, (RZhRadiot, 10/76, 10Ye333).

641. Vedernikov, V.M., L.A. Petrashevich, G.G. Tarasov, V.A. Khonov, and A.M. Shcherbachenko (0). Measuring system with laser sensors based on programmed "Elektronika-70"-type computers. Avtometriya, no. 3, 1976, 47-53.

642. Vedernikov, V.M., V.P. Kir'yanov, and A.M. Shcherbachenko (0). Methods of decreasing the multiplication error in pulse-repetition rate multipliers for laser displacement meters. Avtometriya, no. 5, 1976, 87-92.

643. Vinetskiy, V.L., and N.V. Kukhtarev (0). Effect of external fields on the energy exchange of optical beams in holographic lattices in semiconductors. IN: Sb. 3, 378-379. (RZhRadiot, 10/76, 10Ye332).

644. Vlasov, Yu.N., D.L. Zelikson, and A.M. Trokhan. (0). Device for measuring the flow-velocity field of a fluid. Otkr izobr, no. 37, 1976, 447610.

645. Yeremeyeva, T.P. and I.A. Borsina (0). On selecting optimal conditions for spectral imaging of Raman scattering in powder-like substances under laser excitation. ZhPS, v. 25, no. 5, 1976, 796-799.

646. Yesepkina, N.A., V.Yu. Petrun'kin, I.A. Vodovatov, G.K. Vinogradov, and M.G. Vysotskiy (29). Using coherent optical and holographic methods for investigating the characteristics of radio telescopes. IVUZ Radiofiz, no. 11, 1976, 1696-1704.

647. Zakharov, V.P., Yu.A. Snezhko, V.P. Tychinskiy, and N.N. Yevtikhiyev (161). Device for reversible reading of whole and fractional parts of bands in interferometry. PTE, no. 6, 1976, 159-162.

648. Zakharov, V.P., V.P. Tychinskiy, Yu.A. Snezhko, N.N. Yevtikhiyev, and R.A. Vanetsian (0). Threshold sensitivity and precision characteristics of a laser microinterferometer. IT, no. 10, 1976, 33-36.

649. Zakurenov, V.M., and N.A. Prokof'yeva (0). System for studying the acoustic properties of liquids by an optical method based on an He-Ne laser. IN: Sb. 31, 63-68. (RZhF, 12/76, 12D1287).

650. Zarutskiy, M.A. (177). Detection of structural changes in parts using a holographic interferometer. IAN Lat no. 4, 1976, 79-83.

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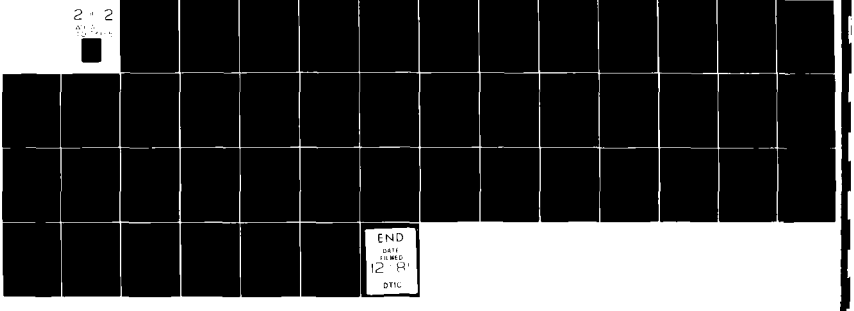

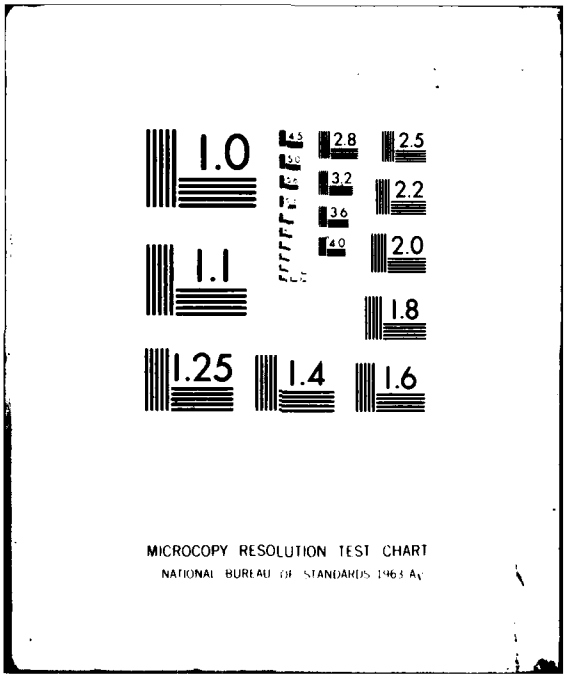
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4.0
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963 A

651. Zarutskiy, M.A. (177). Resolving power of a holographic method of crack detection. IAN Lat no. 4, 1976, 84-86.

652. Zhilkin, V.A., and L.A. Borynyak (0). Optical methods for determining slight displacements and deformations in structural members. IN: Sb. 25, 76-92. (RZhRadiot, 10/76, 10Ye385).

653. Zurowski, A. (NS). Application of electronic goedetic instruments and lasers in marine hydraulic engineering. Technika i gospodarka morska, v. 26, no. 9, 1976, 548-551.

H. BEAM- TARGET INTERACTION

1. Metal Targets

654. Buravlev, Yu.S., Ye.A. Voloshina, B.P. Nadezhda, and Yu.I. Kovalenko (0). Effect of the temperature of a target on the laser erosion of metals and alloys. FiKhOM, no. 6, 1976, 150.

655. Dymshits, Yu.I. (0). "Bleaching" of aluminum foil irradiated by high power laser pulses. ZhTF P, no. 16, 1976, 751-754.

656. Geguzin, Ya.Ye., A.K. Yemets, and V.G. Kononenko (34). The dimensional effect on materials under pulsed laser radiation. UFZh, no. 12, 1976 1965-1969.

657. Kovalenko, V.S., V.S. Chernenko, and L.F. Golovko (0). Research on the process of linear contoured beam laser hardening of materials. EOM, no. 5, 1976, 22-25.

658. Lokhov, Yu.N., A.A. Uglov, and I.I. Shvyrkova (0). Development of plastic deformation in metals and semiconductors under the action of laser radiation. FiKhOM, no. 6, 1976, 149-150.

659. Lyubov B.Ya. and E.N. Sobol' (0). Quantitative analysis of the kinetics of evaporation of metallic films absorbing laser radiation. FiKhOM, no. 6, 1976, 8-15.

660. Lyubov, B.Ya., and E.N. Sobol' (0). Vaporization of metal films by laser radiation. FiKhOM, no. 6, 1976, 149.

661. Mikhaylov, V.S. and V.A. Spasibenko (0). The formation time of damage in aluminum films under laser radiation. IN: Sb. 32, 107-113. (RZhRadiot, 12/76, 12Ye319).

662. Samsonov, G.V., A.D. Verkhoturov, A.I. Roshchina, A.V. Vasil'yev, and V.P. Klimenko (0). Erosion of IV-VI and VIII group transition metals subjected to high power laser radiation. EOM, no. 5, 1976, 5-7.

663. Samsonov, G.V., M.S. Koval'chenko, A.D. Verkhoturov and A.I. Roshchina (0). Processing refractory metals and their compounds by laser radiation. EOM, no. 6, 1976, 5-10.

664. Tananykhin, A.A., L.D. Stepin, and N.A. Zatenko (34). Coefficient of reflection of laser radiation by a metal layer. IN: Tr. 7, 97-99. (RZhRadiot, 10/76, 10Ye311).

2. Dielectric Targets

665. Agranat, M.B., N.P. Novikov, V.P. Perminov, and P.A. Yampol'skiy (395,141). Some problems on the initial stage of laser breakdown in polymethyl methacrylate. KE, no. 10, 1976, 2279-2282.

666. Agranat, M.B., N.P. Novikov, V.P. Perminov, and P.A. Yampol'skiy (395). Optical strength and laser destruction of natural amber. MP no. 5, 1976, 915-916.

667. Aleshin, I.V., S.I. Anisimov, A.M. Bonch-Bruyevich, Ya.A. Imas, and V.L. Komolov (0). Statistical model for the destruction of inhomogeneous dielectrics by laser radiation. FiKhOM, no. 6, 1976, 149.

668. Dyatlov, A.I., and Ye. I. Yakubovich (0). Cumulative ionization in solid transparent dielectrics under the action of coherent light. IN: Sb. 4, 153 (RZhRadiot, 10/76, 10Ye292).

669. Dynin, Ye. A. (0). Optical generation of compression pulses in transparent dielectrics with absorption bands. ZhTF P, no. 16, 1976, 763-766.

670. Fridkin, V.M., K.D. Kochev, Yu.S. Kuzminov, K.A. Verkhovskaya, and T.R. Volk (0). Shift of the optical absorption edge at "optical damage" in $LiNbO_3$. Physica status solidi (a), v. 33, no. 2, 1976, K137-K139. (RZhKh, 18/76, 18B610).

671. Mirzayev, A.T., and U.K. Akhmedov (0). Action of laser radiation on polymer powders. IN: Sb. 2, 175. (RZhRadiot, 10/76, 10Ye283).

672. Mirzayev, A.T., and U.K. Akhmedov (0). Laser modification of polymer properties. IN: Sb. 2, 175-176. (RZhRadiot, 10/76, 10Ye326).

673. Volosevich, P.P., Ye.G. Gamaliy, A.V. Gulin, V.B. Rozanov, A.A. Samarskiy, N.N. Tyurina, and A.P. Favorskiy (0). Two-dimensional effects in laser compression of glass shells. ZhETF P, v. 24 , no. 5, 1976 283.

674. Vuntsevich, I.L., B.F. Mul'chenko, N.F. Pilipetskiy, and V.I. Suponin (17). Absorption of light and laser crack propagation. Part 1. MP, no. 5, 1976, 777-781.

675. Zakharov, S.I. (141). On the criteria for breakdown of dielectrics by a giant optical pulse. ZhETF, v. 71, no. 5, 1976, 1863-1872.

3. Semiconductor Targets

676. Kachurin, G.A., Ye.V. Nidayev, A.V. Khodyachikh, and L.A. Kovaleva (10). Annealing of implanted layers by a scanning laser beam. FTP, no. 10, 1976, 1890-1893.

677. Mazhukin, V.I. and D.I. Cherednichenko (0). Effect of nonlinear thermal properties on the temperature regime of a semiconductor subjected to a pulsed heat source. FiKhOM, no. 6, 1976, 16-19.

678. Plyatsko, G.V., A.A. Kipen', N.I. Vitrikhovskiy, O.V. Franiv, and B.K. Kotlyarchuk (0). Inversion of conductivity type in CdS_xTe_{1-x} in the interaction zone of a high-power ruby laser pulse. UFZh, no. 11, 1976 1920-1922.

679. Polyaninov, A.V. (0). Anomalous variation of the electrical properties of germanium under laser action. FiKhOM, no. 6, 1976, 150.

680. Sobolev, M.M. and V.S. Myl'nikov (0). Emission of electrons from ZnS crystals under excitation by a neodymium laser. FTT, no. 11, 1976 3514-3515.

681. Zaripov, M.M., I.B. Khaybullin, and Ye. I. Shtyrkov (0). Annealing of ion-doped layers under the action of laser radiation. UFN, v. 120, no.4, 1976, 706-707.

4. Miscellaneous Studies

682. Arslanbekov, T.U. (0). Measuring the cross-sections of the process of five-photon ionization of an Na atom and of eleven-photon ionization of an Xe atom by single-mode laser radiation. IN: Sb. 2, 171. (RZhRadiot, 10/76, 10Ye286).

683. Arslanbekov, T.U. (0). Multiphoton processes in the radiation field of a multimode Nd: glass laser. IN: Sb. 2, 172. (RZhRadiot, 10/76, 10Ye285).

684. Arslanbekov, T.U. (0). Five-photon ionization of a Na atom in single-mode and multimode laser fields. IN: Sb. 2, 172-173. (RZhRadiot, 10/76, 10Ye284).

685. Butylkin, V.S., Yu.G. Khronopulo, and Ye. I. Yakubovich (15). Canonical description of multiquantum resonant interaction of radiation with matter. ZhETF, v. 71, no. 5, 1976, 1712-1725

686. Dogadov, V.V. and V.N. Smirnov (0). Effect of optical breakdown plasma on NaCl and KCl crystals. ZhTF, no. 10, 1976, 2225-2227.

687. Kaganovskiy, Yu.S., V.D. Freylikher, V.V. Grishchenko, and I.M. Popova (0). Estimating the parameters of micro-irregularity on the surface of a solid by a light scattering method. PTE, no. 4, 1976, 258-260.

688. Kislitsyn, A.A., and A.V. Morar (398). A frontal method for solving the two-dimensional problem of vaporizing a metal cone under high-power radiation. TVT, no. 5, 1976, 1030-1033.

689. Lokhov, Yu.N. A.A. Uglov and I.I. Shvyrkova (22). Development of plastic deformation under pulsed action on absorption media. DAN SSSR, v. 231, no. 1, 1976, 90-93.

690. Smirnov, V.N. (0). The effect of optical radiation on a low-absorption semiconductor plate. ZhTF, no. 12, 1976, 2491-2494.

691. Tribel'skiy, M.I. (0). Optical breakdown of transparent media with random nonuniformities. KE, no. 11, 1976, 2374-2383.

692. Uglov, A.A., A.N.Kulik, and R.I. Glek (0). Calculating heating and thermal stress caused by an internal heat source. FiKhOM, no. 6, 1976, 39-44.

693. Uglov, A.A., A.N. Kulik, and F.I. Stotskiy (0). Temperature field in an absorption layer, caused by a local heat source. FiKhOM, no. 6, 1976, 128-131.

694. Vlasov, R.A., S.P. Zhvavyy, and G.M. Rubanova (0). Numerical solution to the problem of the kinetics of avalanche ionization, stimulated by a powerful light pulse. ZhPS, v. 25, no. 5, 1976, 924-926.

695. Yerunov, V. Ya. and O. Ye. Rovinets, (0). Heating of a solid exposed to a high-power, concentrated moving heat source. FiKhOM, no. 6, 1976, 142-144.

J. PLASMA GENERATION AND DIAGNOSTICS

696. Aglitskiy, Ye. V., A.N. Zherikhin, P.G. Kryukov, and S.V. Chekalin (0). Characteristics of the X-ray spectra of a plasma produced by an ultrashort laser pulse. IN: Sb. 3, 244. (RZhRadiot, 10/76, 10Ye262).

697. Aleksandrov, V.V., S.I. Anisimov, M.V. Brenner, Ye. P Velikhov, V.D. Vikharev, V.P. Zotov, N.G. Koval'skiy, M.I. Pergament, and A.I. Yaroslavskiy (0). Experimental research on devices for exciting plasma waves and for generating harmonics in plasma, produced by high power laser pulses. ZhETF, v. 71, no. 5, 1976, 1826-1836.

698. Aleksandrov, V.V., V.D. Vikharev, V.P. Zotov, N.G. Koval'skiy, and M.I. Pergament (O). Characteristics of the structure of the $2\omega_0$ and $3/2\,\omega_0$ harmonics generated in a laser plasma. ZhETF P, v. 24, no. 10, 1976, 551-554.

699. Alekseyev, V.N., V.A. Burtsev, V.A. Glukhikh, A.A. Gorokhov, V.D. Dyatlov, V.I. Kryzhanovskiy, A.A. Mak, B.M. Sedov, V.A. Serebryakov, A.D. Starikov, V.G. Tuzov, A.A. Chertkov, and A.M. Charukhchev (O). Six-channel Nd:glass laser system with a shaped radiation pulse for studying the heating and nonlinear processes in a plasma. IN: Sb. 3, 236. (RZhRadiot, 10/76, 10Ye259).

700. Alimov, D.T. (O). Dependence of the ionization probability of a xenon atom on the ellipticity of radiation. IN: Sb. 2, 185. (RZhRadiot, 10/76, 10Ye282).

701. Atanassov, P.A. (NS). Investigation of a fully ionized plasma by a CO_2 laser ring interferometer. DBAN, no. 7, 1976, 971-974.

702. Avrov, A.I., V.Yu. Bychenkov, O.N. Krokhin V.V. Pustovalov, A.A. Rupasov, V.P. Silin, G.V. Sklizkov, V.T. Tikhonchuk, and A.S. Shikanov (O). Diagnostics of a laser plasma in the region of a quarter of the critical density. ZhETF P, v. 24, no. 5, 1976, 293.

703. Basov, N.G., O.N. Krokhin, G.V. Sklizkov, and S.I. Fedotov (1). High-power lasers for thermonuclear fusion. Priroda, no. 12, 1976, 10-27.

704. Basov, N.G., Yu. A. Zakharenkov, N.N. Zorev, A.A. Kologrivov, O.N. Krokhin, A.A. Rupasov, G.V. Sklizkov, and A.S. Shikanov (0). Nonlinear phenomena in a laser plasma under plane and spherical irradiation geometries. IN: Sb. 3, 257. (RZhRadiot, 10/76, 10Ye258).

705. Basov, N.G., Yu. A. Zakharenkov, N.N. Zorev, A.A. Kologrivov, O.N. Krokhin, A.A. Rupasov, G.V. Sklizkov, and A.S. Shikanov (1). Research on the compression of hollow microspheres irradiated by a laser. ZhETF, no. 5, 1976, 1788-1798, v.71.

706. Bayanov, V.I., S.S. Gulidov, A.A. Mak, G.V. Peregudov, I.I. Sobel'man, A.D. Starikov, and V.A. Chirkov (1). Research on the spatial distribution of the parameters of laser plasma subjected to a heating pulse of 10^{-10} seconds, using X-ray spectroscopy methods. KE, no. 10, 1976, 2253-2265.

707. Bayanov, V.I., V.A. Boyko, A.V. Vinogradov, S.S. Gulidov, A.A. Ilyukhin, V.A. Katulin, A.A. Mak, V.Yu. Nosach, A.L. Petrov, G.V. Peregudov, S.A. Pikuz, I.Yu. Skobelev, A.D. Starikov, A. Ya.Fayenov, V.A. Chirkov, and Ye. A. Yukov (1). Anomalous intensities of satellites of resonance lines of hydrogen-like ions. ZhETF P, v. 24, no. 6, 1976, 352.

708. Baykov, O.G., V.V. Veremey, G.N. Vinokurov, A.A. Gorokhov, A.A. Mak, I.M. Minkov, V.A. Serebryakov, A.D. Starikov, V.G. Tuzov, and A.N. Shatsev (0). Uniform spherical irradiation of small-sized targets by laser beams. IN: Sb. 3, 237. (RZhRadiot, 10/76, 10Ye244).

709. Belokon', V.A., Yu.A. Il'inskiy, and R.V. Khokhlov (2). Possibilities of thermonuclear fusion of elements. ZhETF P, v. 24, no. 10, 1976, 569-572.

710. Borodin, V.G., A.A. Gorokhov, M.F. Danilov, V.D. Dyatlov, V.M. Komarov, V.A. Malinov, R.N. Medvedev, G.V. Obraztsov, A.N. Popytayev, A.D. Starikov, A.V. Charukhchev, V.K. Chevokin, M. Ya. Shchelev, A.A. Mak, P.P. Pashinin, and A.M. Prokhorov (0). Time characteristics of x-radiation in a subnanosecond laser plasma and the nonlinear dissipation of the energy of heating radiation (spherically symmetrical case). IN: Sb. 3, 244. (RZhRadiot, 10/76, 10Ye264).

711. Boyko, V.A., V.A. Danilychev, V.D. Zvorykin, I.V. Kholin and A. Yu. Chugunov (1). Measuring the recoil pulse for one-dimensional motion of a plasma resulting from irradiation of a solid target by a CO_2 electroionization laser. ZhTF P, no. 16, 1976, 743-747.

712. Bykovskiy, Yu. A., T.A. Basova, N.N. Degtyarenko, V.G. Degtyarev, Yu. N. Kolosov, I.D. Laptev, and V.N. Nevolin (0). Study of a multicomponent laser plasma in the later stages of disintegration. IN: Sb. 3, 245. (RZhRadiot, 10/76, 10Ye260).

713. Cojocaru, E. (NS). Anomalous heating of a laser plasma, due to parametric instabilities. Studii si cercetari de fizica, v. 28, no. 4, 1976, 351-368. (RZhF, 12/76, 12G169).

714. Danilov, O.B., and S.A. Tul'skiy (0). Electrical characteristics of a long laser spark. IN: Sb. 3, 256, (RZhRadiot, 10/76, 10Ye255).

715. Gorbunov, L.M., V.I. Domrin, and R.R. Ramazashvili (0). Stimulated Raman scattering and penetration of an e-m wave into an inhomogeneous plasma. IN: Sb. 3, 241. (RZhRadiot, 10/76, 10Ye267).

716. Gorokhov, A.A., V.D. Dyatlov, R.N. Medvedev, G.V. Obraztsov, A.D. Starikov, V.G. Tuzov, and A.V. Charukhchev (0). Spectra of optical harmonics generated by a microspherical plasmoid subjected to a high-power pumping wave, and physical processes in a plasma. IN: Sb. 3, 247, (RZhRadiot 10/76, 10Ye268).

717. Gudilin, I.A., V. Ye. Mitsuk, and V.A. Chernikov (2). Study of laser absorption in an optical spark. VMU, no. 5, 1976, 617-619.

718. Isakov, A.I., L.A. Krupinina, Yu. A. Merkul'yev, A.I. Nikitenko, and Ye. R. Rychkova (1). Cryogenic devices for fabricating and introducing spherical targets into the focus of a laser. Kratkiye soobshcheniye po fizike, no. 5, 1976, 3-7. (RZhRadiot, 10/76, 10Ye247).

719. Isakov, A.I., L.A. Krupinina, Yu. S. Leonov, F.I. Matveyeva, Yu. A. Merkul'yev, A.I. Nikitenko, Ye. P. Rychkova, and G.V. Sklizkov (1). Method for automatic selection of polymer shells from sintered particles. KSpF, no. 5, 1976, 8-12. (RZhF, 10/76, 10D1053).

720. Isakov, A.I., Yu. S. Leonov, F.I. Matveyeva, Yu. A. Merkul'yev, A.I. Nikitenko, and Ye. R. Rychkova (1). Processing of glass laser targets. Kratkiye soobshcheniye po fizike, no. 5, 1976, 38-42. (RZhRadiot, 10/76. 10Ye248).

721. Karman, R.L., and B.I. Fel'dman (0). Coherent two-photon amplification process for generating an "ideal" pulse for laser thermonuclear fusion. IN: Sb. 3, 231. (RZhRadiot, 10/76, 10Ye243).

722. Kaytmazov, S.D., and Ye. I. Shklovskiy (0). Laser plasma in a strong magnetic field. IN: Sb. 3, 233. (RZhRadiot, 10/76, 10Ye261).

723. Kaytmazov, S.D., and Ye. I. Shklovskiy (1). Effect of a strong magnetic field on laser plasma from a solid target formed in a gaseous atmosphere. ZhETF, v. 71, no. 6, 1976, 2091-2097.

724. Kolerov, A.N. and G.D. Petrov (0). Submillimeter laser methods of measuring plasma parameters. IT, no. 8, 1976, 58-60.

725. Korobkin, V.V., V.M. Ovchinnikov, P.P. Pashinin, Yu. A. Pirogov, A.M. Prokhorov, and R.V. Serov (0). The UMI-235 laser system for controlled fusion research. IN: Sb. 3, 235. (RZhRadiot, 10/76, 10Ye245).

726. Kotsubanov, V.D., A.N. Letuchiy, and O.S. Pavlichenko (82). The possibility of direct measurement of local population densities of excited levels of hydrogen in plasma, using a laser radiation resonance scattering method. Fizika plazmy, no. 6, 1976, 1004-1009.

727. Kozlov, G.I., V.A. Kuznetsov, and V.A. Masyukov (0). A c-w optical discharge in molecular gases. IN: Sb. 3, 250. (RZhRadiot, 10/76, 10Ye269).

728. Kryuchenkov, V.B. and V.A. Lykov (0). Methods for determining deuterium plasma parameters in laser experiments with shell targets. KE, no. 11, 1976, 2477-2479.

729. Kutovoy, V.D., G.D. Petrov, A.I. Petryakov, and P.A. Samarskiy (0). Polarized submillimeter interferometer for plasma disgnostics. IT, no. 8, 1976, 60-61.

730. Mikhaylov, Yu. A., S.A. Pikuz, A. Ya. Fayenov, and S.I. Fedotov (1). Wide-aperture spectrograph for recording X-radiation from a laser plasma at wavelengths below 3Å . PTE, no. 6, 1976, 174-176.

731. Nemtsev, I.Z., B.F. Mul'chenko, and Yu. N. Rayzer (0). Forced ignition of optical detonation in gases. IN: Sb. 3, 249. (RZhRadiot, 10/76, 10Ye265).

732. Oganisyan, A.S., G.D. Petrov, and E.F. Yurchuk (0). Forming a laser spark in two-phase media. ZhPS, v. 25, no. 6, 1976, 1111-1113.

733. Petukh, M.L., V.D. Satsunkevich, and A.A. Yankovskiy (0). Use of laser plasma without additional electrical discharges for spectral analysis. ZhPS, v. 25, no. 5, 1976, 786-790.

734. Polyanichev, A.N. (16). Reflectance of laser radiation from a dense plasma, and the zone of anomalous absorption. IVUZ Fiz, no. 11, 1976, 79-82.

735. Polyanichev, A.N., V.T. Tikhonchuk, and V.S. Fetisov (0). Nonlinear absorption of high-power laser radiation in a dense plasma. IN: Sb. 3, 240, (RZhRadiot, 10/76, 10Ye266).

736. Pyatnitskiy, L.N., V.S. Zhivopistsev, V.S. Zrodnikov, and V.F. Chinnov (74). Laser diagnostics of a nonequilibrium microwave discharge. DAN SSSR, v. 230, no. 5, 1976, 1092-1094.

737. Rabinovich, M.S. (1). Controlled thermonuclear fusion research in institutes of the Academy of Sciences of the USSR from 1975-1976. Fizika plazmy, no, 6, 1976, 1022-1036.

738. Sannikov, V.V. (0). Polychromator based on the MDR-2 monochromator for plasma diagnostics by a laser radiation scattering method. PTE, no. 5, 1976, 185-186.

739. Tyurin,Ye. L. and V.A. Shcheglov (152). Absorption of monochromatic radiation in moving media. ZhTF, no. 11, 1976, 2280-2286.

740. Vasil'yeva, I.A., A.S. Golubkova, B. Ya. Shumyatskiy, and D.A. Yundev (74). Study of electron density and mobility in a combustion plasma, using a submillimeter HCN-laser interferometer. TVT, no. 5, 1976, 1055-1060.

741. Volkov, V.A., F.V. Grigor'yev, V.V. Kalinovskiy, S.B. Kormer, L.M. Lavrov, G.A. Mishuchkov, V.D. Urlin, and V.P. Chudinov (0). Study of the mechanism for the breakdown of air by laser radiation at 1.06μ and 9.55μ. IN: Sb. 3, 251. (*RZhRadiot*, 10/76, 10Ye263).

742. Volosevich, P.P., L.M. Degtyarev, Ye. I. Levanov, S.P. Kurdyumov, Yu. P. Popov, A.A. Samarskiy and A.P. Favorskiy (71). The process of superhigh compression of matter and the initiation of a thermonuclear reaction by a giant pulse of laser radiation. Fizika plazmy, no. 6, 1976, 883-897.

743. Yefimov, V.M., A.M. Iskol'dskiy, and A.A. Nesterov (0). Determining plasma parameters from a weak spectral line. Avtometriya, no. 3, 1976, 79-83.

744. Zhidov, I.G. and V.G. Pogachev (0). Self-simulating motion of a gas heated by an isotropic point source of monochromatic radiation. PMTF, no. 4, 1976, 19-23.

III MONOGRAPHS, BOOKS, CONFERENCE PROCEEDINGS

745. Aleksandrov, K. S., ed. (210). Svoystva materialov, ispol'zuyemkh v ustroystvakh optoelektroniki. (Properties of materials used in opto-electronic devices). Institut fiziki SOAN Krasnoyarsk, 1975, 188 p. (RZhF, 10/76, 10D1339)

746. Andreyev, S. P., and V. S. Lisitsa(23)Pogloshcheniye sveta pri stolknovenii tozhdestvennykh atomov (Absorption of light during collision of identical atoms). Institut atomnoy energii. Preprint, IAE-2617, 1976, 28 p. (RZhF, 12/76, 12D934)

747. Baranova, N. B., A. A. Golubtsov, B. Ya. Zel'dovich, N. A. Mel'nikov, N. F. Pilipetskiy, and A. N. Rusetskiy (1). Vynuzhdennoye rasseyaniye sveta nazad v sredakh s navedennoy anizotropiey (Stimulated back-scatter of light in media with induced anisotropy). Fizicheskiy institut AN SSSR. Kvantovaya radiofizika. Preprint, no. 94, 1976, 43 p. (RZhF, 11/76, 11D1119)

748. Basov, N. G., A. S. Bashkin, V. I. Igoshin, V. Yu. Nikitin, and A. N. Orayevskiy (1). O vozmozhnosti primeneniya khimicheskogo ftorvodorodnogo lazera v lazernom upravlyayemom termoyadernom sinteze (Possibility of using a hydrogen fluoride chemical laser for laser fusion). Fizicheskiy Institut AN SSSR, Preprint no. 171, Moscow, 1975, 29 p. (RZhF, 10/76, 10D1080)

749. Bazarov, Ye. N., G. A. Gerasimov, V. P. Gubin, and Yu. I. Posudin (15). Issledovaniye kratkovremennoy nestabil'nosti chastoty CO_2 lazera s vneshney nelineyno-pogloshchayushchey yacheykoy s OsO_4 (Study of short-term frequency instability in a CO_2 laser with an external OsO_4 nonlinear absorption cell). Institut radiotekhniki i elektroniki AN SSSR. Preprint, no. 8 (214), 1976, 32 p. (RZhF, 11/76, 11D1246)

750. Belobrov, P. I., G. M. Zaslavskiy, and G. Kh. Tartakovskiy (210). Stokhasticheskoye razrusheniye svyazannykh sostoyaniy v sisteme atomov, vzaimodeystvuyushchikh s polem izlucheniya (Stochastic destruction of bound states in a system of atoms interacting with a radiation field). Institut fiziki SOAN. Preprint, IFSO-40F, Kransnoyarsk, 1976, 29 p. (RZhF, 10/76, 10D919)

751. Biryukov, A. S., V. M. Marchenko, and A. M. Prokhorov(1) Energeticheskiye kharakteristiki gazodinamicheskikh CO_2-lazerov na smeshenii potokov kolebatel'no vozbuzhdennogo azota i aerozolya uglekisloty (Energy characteristics of CO_2 gasdynamic lasers using a flow mixture of vibrationally excited nitrogen and a CO_2 aerosol). Fizicheskiy institut AN SSSR. Preprint, no. 64, 1976, 21 p. (RZhF, 12/76, 12D1013)

752. Bukatyy, V. I., Yu. D. Kopytin, S. S. Khmelevtsov, and D. P. Chaporov (78). Samovozdeystviye intensivnykh svetovykh impul'sov pri nelineynom rasseyanii v pogloshchayushchem aerozole (Self-action of intense optical pulses during nonlinear scattering in an absorption aerosol). Institut optiki atmosfery SOAN. Preprint, no. 12, 1976, 20 p. (RZhF, 11/76, 11D1121)

753. Danileyko, M. V., V. Ye. Derkach, V. P. Kozubovskiy, A. P. Nedavniy, and M. T. Shpak (5). Polyarizatsionnyye effekty v kol'tsevom lazere s nelineynym pogloshcheniyem (Polarization effects in a ring laser with nonlinear absorption). Institut fiziki AN UkrSSR. Preprint no. 4, Kiyev, 1976, 24 p. (RZhF, 10/76, 10D966)

754. Dolivo-Dobrovol'skiy, A. V. (0). Geometriya radiolokatsionnykh, infrakrasnykh i drugikh novykh vidov aerosnimkov (Geometry of radar, infrared and other new types of aerial photographs). Vsesoyuznoye aerogeologicheskoye nauchnoproizvoditel'noye ob"edineniye "Aerogeologiya", Lab. aerometodov, Leningrad, "Nedra", 1976, 51 p. (KL, 28/76, 23518)

755. Fabrikant, V.A., ed. (9)Prikladnaya fizicheskaya optika (Applied physical optics). Moskovskiy energeticheskiy institut. Trudy, no. 281, 1976, 120 p. (RZhRadiot, 10/76, 10Ye271)

756. Fizicheskiye metody issledovaniya prozrachnykh neodnorodnostey. Tezisy dokladov seminara (Physical methods for studying transparent inhomogeneities. Summaries of reports of a seminar). Held in Moscow, 1975. Moskva, Moskovskiy Dom nauchnotekhnicheskoy propagandy, 1976, 60 p. (RZhF, 12/76, 12D1284)

757. Fizicheskaya elektronika (Physical electronics). Moskva, Nauka, 1976, 237 p. (RZhF, 11/76, 11D1465)

758. Golenishchev-Kutuzov, V. A., and V. V. Samartsev (38). Elektromagnitoye sverkhizlucheniye (Electromagnetic superluminescence). Fiziko-tekhnicheskiy institut Kazanskogo filiala AN SSSR. Kazan', 1975, 427 p. (RZhRadiot, 10/76, 10Ye140)

759. Golograficheskiye metody i apparatura, primenyayemaya v fizicheskikh issledovaniyakh (Holographic methods and apparatus used in physical research). VNII fizikoteknicheskikh i radiotekhnicheskikh izmereniy. Nauchnyye trudy. Moskva, 1976, 80 p. (RZhRadiot, 10/76, 10Ye343)

760. Grigor'yants, V. V. (0). Lazery (Lasers). Novoye v zhizni, nauke, teknike. Seriya Radioelektronika i svyaz', no. 1, Moskva, Znaniye, 1975, 63 p. (Cited in UFN, v. 120, no. 3, 1976, 525)

761. Gulyayev, Yu. V., and G. N. Shkerdin. Difraktsiya sveta na zvuke v aktivnykh sredakh (Diffraction of light by sound in active media). Institut radiotekhniki i elektroniki AN SSSR. Preprint, no. 9 (215), 1976, 47 p. (RZhF, 11/76, 11D1145)

762. Gurvich, A. S., A. I. Kon, V. L. Mironov, and S. S. Khmelevtsov (0). Lazernoye izlucheniye v turbulentnoy atmosfere (Laser radiation in a turbulent atmosphere). Moskva, Nauka, 1976, 277 p.

763. Karlov, N. V., et al (0). Moshchnyye molekulyarnyye lazery (High power molecular lasers). Moscow, Znaniye, 1976, 64 p. (RBL, 11/76, 1184)

764. Khmelevtsov, S. S., ed (78). Rasprostraneniye opticheskikh voln v neodnorodnykh sredakh (Propagation of optical waves in inhomogenious media). Institut optiki atmosfery SOAN. Tomsk, 1976, 144 p. (RZhF, 11/76, 11D1053)

765. Kozachok, A. G., ed (327). Gologaficheskiye izmeritel 'nyye sistemy (Holographic measuring systems). Novosibirskiy elektrotekhnicheskiy institut. Sbornik nauchnykh trudov. Novosibirsk, 1976, 110 p. (RZhF, 11/76, 11D1294)

766. Kozakov, L. A. (386). Opredeleniye meteorologicheskikh kharakteristik svobodnoy atmosfery s pomshch'yu lazernoy lokatsii: [Konspekt lektsii] (Determining the meteorological characteristics of a free atmosphere by means of lidar: [lecture summary]). Leningrad, LGMI, 1975, 19 p. (KL, 28/76, 23526)

767. Letokhov, V. S., and A. A. Makarov (72). Kogerentnoye vozbuzhdeniye mnogourovnevykh molekulyarnykh sistem v sil'nom kvazirezonansnom lazernom IK-pole (Coherent excitation of multilevel molecular systems in a strong quasi-resonant IR laser field). Institut spektroskopii AN SSSR. Preprint, 1976, 96 p. (RZhF, 11/76, 11D1232)

768. Lotkova, E. N., V. F. Savchenko, N. N. Sobolev, and R. P. Tertichko (1). Vliyaniye kisloroda i ksenona na kharakteristiki aktivnoy sredy elektrorazryadnogo CO-lazera (Effect of oxygen and xenon on the characteristics of the active medium in an electric-discharge CO laser). Fizicheskiy institut AN SSSR. Preprint, no. 67, 1976, 22 p. (RZhF, 12/76, 12D1002)

769. Malashkevich, G. Ye., and V. V. Kuznetsova (3). Nestatsionarnaya generatsiya na rastvorakh nekotorykh organicheskikh kompleksov yevropiya (Nonstationary lasing in solutions of various organic europium complexes). Institut fiziki AN BSSR. Preprint, no. 100, 1976, 32 p. (RZhF, 11/76, 11D1184)

770. Mirzayev, A. (0). Primeneniye lazera v khimii (Use of lasers in chemistry). Besedy o nauke, no. 32. Tashkent, Uzbekistan, 1975, 22 p. (KL, 28/76, 23503)

771. Poloskov, S. M., ed. (350). Voprosy optiki verkhney atmosfery (Problems of optics of the upper atmosphere). Institut prikladnoy geofiziki. Trudy, no. 22, Moskva, Gidrometeoizdat, 1976, 128 p. (RZhF, 11/76, 11D1054)

772. Pyatnitskiy, L. N. (0). Lazernaya diagnostika plazmy (Laser diagnostics of a plasma). Moscow, Atomizdat, 1976, 424 p. (RBL, 12/76, 1815)

773. Rivlin, L.A. (0) Dinamika izlucheniya poluprovodnikovykh kvantovykh generatorov (Radiation dynamics of semiconductor lasers). Moskva, Sovetskoye radio, 1976, 176 p. (RZhRadiot, 10/76, 10Ye95)

774. Safronov, Yu. P., and R. I. El'man (0). Infrakrasnyye raspoznayushchiye ustroystva (Infrared identification devices). Moskva, Voyenizdat, 1976, 206 p.

775. Shvartsburg, A. V. (0). Geometricheskaya optika v nelineynoy teorii voln (Geometrical optics in nonlinear wave theory). Moskva Nauka, 1976, 119 p. (RZhF, 10/76, 10D918)

776. Stepanov, B. M., ed. (140). Gologaficheskiye metody i apparatura primenyayemaya v fizicheskikh issledovaniyakh (Holographic methods and equipment in physics research). Nauch. tr. VNII fiz-tekh. i radiotekh. izmereniy. Moscow, 1976, 80 p. (RZhF, 10/76, 10D1087)

777. Tarasov, S. V. (0). Fizicheskiye osnovy kvantovoy elektroniki [opticheskiy diapazon] (Physical principles in quantum electronics [optical range]). Moscow, Sovetskoye radio, 1976, 367 p. (RBL, no. 12, 1976, 1938)

778. Vlad, V. I., R. Zaciu, J. Maurer, N. Miron, and D. Sporea (NS). Prelucrarea optica a informatiei (Optical processing of information). Bucuresti, Acad. RSR, 1976, 476 p. (RZhF, 12/76, 12D792)

779. VIII Vsesoyuznaya konferentsiya po kogerentnoy i nelineynoy optike, Tbilisi, 25-28 maya, 1976, g. Tezisy dokladov T. 1. (8th All-Union Conference on Coherent and Nonlinear Optics, Tbilisi, 25-28 May, 1976. Summaries of the reports. Vol. 1). Tbilisi, Metsniyereba, 1976, 357 p. (RZhF, 10/76, 10D916)

780. VIII Vsesoyuznaya konferentsiya po kogerentnoy i nelineynoy optike, Tbilisi, 25-28 maya, 1976, g. Tezisy dokladov T. 2. (8th All-Union Conference on Coherent and Nonlinear Optics, Tbilisi, 25-28 May, 1976. Summaries of the reports. Vol. 2). Tbilisi, Metsniyereba, 1976, 388 p. (RZhF, 10/76, 10D917)

781. IV Vsesoyuznyy simposium po lazernomu zondirovaniyu atmosfery. Tezisy dokladov. (Fourth All-Union symposium on laser probing of the atmosphere. Summaries of the reports). Tomsk, 1976, 373 p. (RZhRadiot, 12/76, 12Ye262)

782. Vynuzhdennoye konbinatsionnoye rasseyaniye sveta: Materialy konf. (Stimulated Raman scattering of light: conference materials). Kiyev, Znaniye, 1975, 106 p. (KL, 23/76, 18907)

783. Yakovlenko, S. I. (23). Pogloshcheniye intensivnogo rezonansnogo izlucheniya atomami pri ushirenii elektronnymi udarami (Absorption of intense resonance radiation by atoms during broadening by electron collisions). Institut atomnoy energii. Preprint IAE-2694, 1976, 20 p. (RZhF, 12/76, 12D915)

784. Zuyev, V. Ye., ed. (78). Voprosy distantsionnogo zondirovaniya atmosfery (Problems of remote probing of the atmosphere). SOAN. Institut optiki atmosfery, Tomsk, 1976, 209 p. (RZhF, 10/76, 10D893)

785. Zuyev, V. Ye., ed. (78). Voprosy lazernogo zondirovaniya atmosfery (Problems on laser probing of the atmosphere). Novosibirsk, Nauka, 1976, 190 p.

IV. TRANSLATIONS

A. COMMERCIAL TRANSLATIONS

A number of Soviet journals which contain articles on laser research are routinely translated cover-to-cover by commercial firms. These are generally available from four to twelve months after the original Russian publication appears. The bulk of such translated laser articles will be found in the following journals:

Journal abbreviation	Transliterated title	English Translation
FAiO	Akademiya nauk SSSR. Fizika atmosfery i okeana	Izvestiya, Atmospheric and Oceanographic Physics
FTP	Fizika i tekhnika poluprovodnikov	Soviet Physics--Semiconductors
-	Fizika plazmy	Soviet Journal of Plasma Physics
FTT	Fizika tverdogo tela	Soviet Physics--Solid State
IT	Izmeritel'naya tekhnika	Measurement Techniques
IVUZ Radiofiz	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika	Radio Physics and Quantum Electronics
KE	Kvantovaya elektronika	Soviet Journal of Quantum Electronics
KSpF	Kratkiye soobshcheniya po fizike	Soviet Physics. Lebedev Institute Reports
NM	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy	Inorganic Materials
OiS	Optika i spektroskopiya	Optics and Spectroscopy
OMP	Optiko-mekhanicheskaya promyshlennost'	Soviet Journal of Optical Technology

Journal abbreviation	Transliterated title	English Translation
PTE	Pribory i tekhnika eksperimenta	Instruments and Experimental Techniques
RiE	Radiotekhnika i elektronika	Radio Engineering and Electronic Physics
TVT	Teplofizika vysokikh temperatur	High Temperature Physics
UFN	Uspekhi fizicheskikh nauk	Soviet Physics--Uspekhi
ZhETF	Zhurnal eksperimental'noy i tekhnicheskoy fiziki	Soviet Physics--JETP
ZhETF P	Pis'ma v Zhurnal eksperimental'noy i tekhnicheskoy fiziki	JETP Letters
ZhPMTF	Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki	Journal of Applied Mechanics and Technical Physics
ZhPS	Zhurnal prikladnoy spektroskopii	Journal of Applied Spectroscopy
ZhTF	Zhurnal tekhnicheskoy fiziki	Soviet Physics--Technical Physics
ZhTF P	Pis'ma v Zhurnal tekhnicheskoy fiziki	Soviet Technical Physics. Letters

B. MISCELLANEOUS TRANSLATIONS

A number of laser books and articles in Russian are translated independently by private or government activities and can be obtained from these sources. It should be noted, however, that because of copyright restrictions, not all government-sponsored translations are available to the general public.

The following is a partial list of laser translations for the current interval:

Basov, N.G., A.Ye. Danilov, O.N. Krokhin, Yu.A. Mikhaylov, G.V. Sklizkov and S.I. Fedotov. Ultimate possibilities of spherical thermonuclear target heating by high-power multi-channel laser radiation. Article undated and

no publication information known. JPRS no. 67944, 20 September 1976.

Basov, N. and O. Krokhin. Thermonuclear reaction of the laser. Translation from Pravda, 27 August 1975, p.3. JPRS no. 65885, 8 October 1975.

Byszewski, W. A simplified model of a high-pressure CO_2-N_2 laser pumped by a discharge controlled by a beam of electrons. Polish Academy of Sciences. NTIS no. N76-27555.

Cybulski, A. and D. Wroblewski. Use of holographic interferometry for the study of high-pressure arcing. Polish Academy of Sciences, 5 December 1975. NTIS no. N76-29556.

Danilov, V. Laser ranging of the 'Salyut-4'. Aviatsiya i Kosmonavtika, Moscow, no.2, February 1976, p.40. JPRS no. L/5805, 31 March 1976.

Dubovoy, L.V., V.D. Dyatlov, V.I. Kryzhanovskiy, A.A. Mak, R.N. Medvedev, A.N. Popytayev, V.N. Sizov, and A.D. Starikov. Interaction of a high-power laser beam with an LiD target. September 1975, 16 p. from Russian pre-print T-0185. NTIS no. N76-23560.

Fesenkov, V.G. Light scatter in the Earth's atmosphere. From Rasseyaniye sveta zemnoy atmosfere, Alma-Ata, 1972. NTIS no. N76-23988, 13 November 1975, 140 p.

Filiukov, A.A., V.B. Mitrofanov, and T.V. Mischenko. Refinement of the reaction rate constants in a CF_3I photo-dissociation laser. Khimiya vysokikh energiy, v. 10, no.1, 1976, 35-37. NTIS no. N76-26476.

Ignatenko, S.A., I.A. Maslov, V.A. Soglasnova, and C.B. Sholomitskiy. Rearranged Fabry-Perot interferometer for the long wave infrared region. AN USSR Institute of Space Research, Moscow, PR-249, 1975, 15 p. NTIS no. N76-25537.

Khorobrykh, A. Laser guidance system for landing aircraft. Pravda, Moscow, 30 April 1976, p.6. JPRS no. 67442, 14 June 1976.

Navara, P. Interkosmos: summer school for observers with laser satellite rangefinders. Prague, Czechoslovak Academy of Sciences, 1974, p. 1-175. NASA-technical translation-F-16543, September 1975, 133 p.

Orlov, A.A. and P.L. Uliakov. Mechanism of high-temperature focus formation during laser rupture of transparent polymers. Prikladnaya mekhanika i tekhnicheskaya fizika, no. 1, 1976, 127-134. NTIS no. N76-28545.

Prokhorov, A.M. and V.K. Konyukhov. Laser beam from rocket flame. Nauka i zhizn', no. 11, 1975, 12-16. JPRS no. L/5658, 20 February 1976.

Shelepin, L.A. Certain tendencies in laser development. Trudy fizicheskogo instituta AN SSSR, no.83, 1975, 3-12. NTIS no. N76-26477.

Sheremet'yev, A.G. and R.G. Tolparev. Experimental coherent optical communications systems. Lazernaya svyaz', Moscow, 1974, 0347-0384. JPRS no. L/5903, 23 April 1976.

Svet, V.D. Optical methods of signal processing. Opticheskiye metody obrabotki signalov, issue 444 in Biblioteka po avtomatike , Moscow, izdatel'stvo Energiya, 1971, p. 2-104. NTIS no. N76-19939; JPRS no.66766.

V. SOURCE ABBREVIATIONS

APP	-	Acta physica polonica
BAPS	-	Bulletin de l'Academie Polonaise des Sciences. Serie des Sciences Techniques
DAN SSSR	-	Akademiya nauk SSSR. Doklady
DAN Tadzh	-	Akademiya nauk Tadzhikskoy SSR. Doklady
DBAN	-	Bulgarska akademiya na naukite. Doklady
EOM	-	Elektronnaya obrabotka materialov
FAiO	-	Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana
FGiV	-	Fizika goreniya i vzryva
FiKhOM	-	Fizika i khimiya obrabotka materialov
FTP	-	Fizika i tekhnika poluprovodnikov
FTT	-	Fizika tverdogo tela
IAN B	-	Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IAN Lat	-	Akademiya nauk Latviyskoy SSR. Izvestiya
IT	-	Izmeritel'naya tekhnika
IVUZ Fiz	-	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Priboro	-	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr	-	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVUZ Radiofiz	-	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
KE	-	Kvantovaya elektronika
KhVE	-	Khimiya vysokikh energiy
KL	-	Knizhnaya letopis'
Kristal	-	Kristallografiya
MP	-	Mekhanika polimerov
NM	-	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy

OiS	-	Optika i spektroskopiya
OMP	-	Optiko-mekhanicheskaya promyshlennost'
Otkr izobr	-	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
PTE	-	Pribory i tekhnika eksperimenta
RBL	-	Russian Book List
RiE	-	Radiotekhnika i elektronika
RZhElektrotekh	-	Referativnyy zhurnal. Elektrotekhnika i energetika
RZhF	-	Referativnyy zhurnal. Fizika
RZhFoto	-	Referativnyy zhurnal. Fotokinotekhnika
RZhGeofiz	-	Referativnyy zhurnal. Geofizika
RZhKh	-	Referativnyy zhurnal. Khimiya
RZhRadiot	-	Referativnyy zhurnal. Radiotekhnika
Sb1	-	Sbornik. Kvantovaya elektronika, no. 10, Kiyev, Naukova dumka, 1976.
Sb2	-	Respublikanskaya konferentsiya molodykh fizikov. AN UzSSR. 3rd. Tezisy dokladov. Tashkent, Fan, 1976.
Sb3	-	Vsesoyuznaya konferentsiya po kogerentnoy i nelineynoy optike. 8th. Tbilisi, 1976. Tezisy dokladov, v. 2. Tbilisi, Metsniyereba, 1976.
Sb4	-	Vsesoyuznaya konferentsiya po kogerentnoy i nelineynoy optike. 8th. Tbilisi, 1976. Tezisy dokladov, v. 1. Tbilisi, Metsniyereba, 1976.
Sb5	-	Nauchnoye priborostroyeniye dlya fizicheskikh issledovaniy. Part 1. Krasnoyarsk, 1975.
Sb6	-	Lazernyye puchki. Khabarovsk, 1975(1976).
Sb7	-	Kvantovaya elektronika, no. 11, Kiyev, Naukova dumka, 1976.
Sb8	-	Elektronika, no. 2, Ryazan', 1976.
Sb9	-	Sistemy stabilizirovannogo toka. Kiyev, Naukova dumka, 1976.
Sb10	-	Fotometricheskiye metody i apparatura dlya issledovaniy v IK-diapazone. Moskva, 1976.

Sb11 - Modulyatsionnaya spektroskopiya poluprovodnikov i dielektrikov. Tbilisi, 1975.

Sb12 - Opticheskiye metody obrabotki informatsii. Leningrad, 1974.

Sb13 - Novyye metody issledovaniy v teoreticheskoy elektrotekhnike i inzhenernoy elektrofiziki, no. 4, Ivanovo, 1975.

Sb14 - Vsesoyuznaya konferentsiya Troynyye poluprovodnikov i ikh primeneniye. Tezisy dokladov. Kishinev, Shtiintsa, 1976.

Sb15 - Voprosy elektroniki SVCh, no. 9, Saratov, Saratovskiy universitet, 1976.

Sb16 - Issledovaniya materialov v usloviyakh luchistogo nagreva. Kiyev, Naukova dumka, 1975.

Sb17 - Lazernoye zondirovaniye atmosfery. Moskva, Nauka, 1976.

Sb18 - Voprosy distantsionnogo zondirovaniya atmosfery. Tomsk, 1976.

Sb19 - Problemy tekhnicheskoy elektrodinamiki, no. 58, 1976.

Sb20 - Primeneniye optiko-elektronnykh priborov v kontrol'no-izmeritel'noy tekhnike. Moskva, 1976.

Sb21 - Konferentsiya molodykh uchenykh. 7th. Sektsiya otbora i peredachi informatsii. Materialy. Fiziko-mekhanicheskiy institut AN UkrSSR, L'vov, 1975.

Sb22 - Voprosy lazernogo zondirovaniya atmosfery. Novosibirsk, 1976.

Sb23 - Rasprostroneniye opticheskikh voln v neodnorodnykh sredakh. Tomsk, 1976.

Sb24 - Elektromagniticheskoye sverkhizlucheniye. Kazan', 1975.

Sb25 - Gologaficheskiye izmeritel'nyye sistemy. Novosibirsk, 1976.

Sb26 - Gologaficheskiye metody i apparatura, primenyayemaya v fizicheskikh issledovaniyakh. Moskva, 1976.

Sb27 - Metody i sredstva preobrazov signalov. Riga, Zinatne, 1976.

Sb28	-	Gertsenovskiye chteniya. 28th. Khimiya. Nauchnyye doklady. Leningrad, 1976.
Sb29	-	Gertsenovskiye chteniya. 29th. Fizicheskaya i poluprovodnikovaya elektronika. Nauchnyye doklady. Leningrad, 1976.
Sb30	-	Razvedochnaya geofizika, no. 70, 1976.
Sb31	-	Issledovaniya fiziko-khimicheskikh svoystv slozhnykh organicheskikh sistem metodami molekulyarnoy akustiki, no. 3, Tula, 1975.
Sb32	-	Nekotoryye voprosy fizicheskikh kinetiki tverdykh tel, no. 2, Cheboksary, 1976.
TKiT	-	Tekhnika kino i televideniya
Tr1	-	Moskovskiy energeticheskiy institut. Trudy, no. 281, 1976.
Tr2	-	Moskovskiy institut radiotekhniki, elektroniki i avtomatiki. Trudy, no. 80, 1975.
Tr3	-	Moskovskiy fiziko-tekhnicheskiy institut. Trudy. Seriya Radiotekhnika i elektronika, no. 10, 1975.
Tr4	-	Tsentral'nyy aerogidrodinamicheskiy institut. Uchenyye zapiski, v. 7, no. 3, 1976.
Tr5	-	Severo-Kavkazkiy nauchnyy tsentr vysshey shkoly. Izvestiya. Yestestvenyye nauki, no. 1, 1976.
Tr6	-	Leningradskiy elektrotekhnicheskiy institut. Izvestiya, no. 183, 1976.
Tr7	-	Khar'kovskiy universitet. Vestnik, no. 138, radiofizika i elektronika, no. 4, 1976.
Tr8	-	Astrofizicheskiye issledovaniya. Spetsial'naya astrofizicheskaya observatoriya. Izvestiya, no. 8, 1976.
Tr9	-	Moskovskoye vyssheye tekhnicheskoye uchilishche. Trudy, no. 219, 1976.
Tr10	-	AN SSSR. Fizicheskiy institut. Trudy, no. 87, 1976.
Tr11	-	Moskovskiy institut radiotekhniki, elektroniki i avtomatiki. Trudy, no. 82, 1975.
Tr12	-	Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 117, 1976.

Tr13	-	NII gidrometeorologicheskogo priborostroyeniya. Trudy, no. 33, 1976.
Tr14	-	Institut eksperimental'noy meteorologii. Trudy, no. 5(62), 1976.
Tr15	-	Trudy uchebnykh institutov svyazi. Ministerstvo svyazi SSSR, no. 79, 1976.
Tr16	-	Trudy metrologicheskikh institutov SSSR. VNII fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy, no. 153(213), 1976.
Tr17	-	Trudy metrologicheskikh institutov SSSR. VNII metrologii, no. 192(252), 1976.
TVT	-	Teplofizika vysokikh temperatur
UFN	-	Uspekhi fizicheskikh nauk
UFZh	-	Ukrainskiy fizicheskiy zhurnal
VMU	-	Moskovskiy universitet. Vestnik. Seriya fizika, astronomiya
ZhETF	-	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF P	-	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhFKh	-	Zhurnal fizicheskoy khimii
ZhPMTF	-	Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki
ZhPS	-	Zhurnal prikladnoy spektroskopii
ZhTF	-	Zhurnal tekhnicheskoy fiziki
ZhTF P	-	Pis'ma v Zhurnal tekhnicheskoy fiziki
ZL	-	Zavodskaya laboratoriya

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163. All Union Scientific Research Institute of Metrology im Mendeleyev (VNII metrologii im Mendeleyeva).
177. Riga Institute for Civil Aviation Engineers (Rizhskiy institut inzhenerov grazhdanskoy aviatsii).

193. Institute of Theoretical and Applied Mechanics, Siberian Branch, AN SSSR, Novosibirsk (Institut teoreticheskoy i prikladnoy mekhaniki SOAN).
209. Moscow Institute of Precision Mechanics and Computer Technology (Moskovskiy institut tochnoy mekhaniki i vychislitel'noy tekhniki).
210. Institute of Physics, Siberian Branch, AN SSSR (Institut fiziki SOAN).
215. Physicotechnical Institute, AN TadzhSSR (Fiziko-tekhnicheskiy institut AN TadzhSSR).
220. Institute of Experimental Meteorology (Institut eksperimental'noy meteorologii).
231. Scientific Research Institute of Motion Pictures and Photography (NI kinofotoinstitut).
236. All Union Scientific Research Institute of Mining Geomechanics and Surveying (VNII gornoy geomekhaniki i marksheyderskogo dela).
244. Moscow Scientific Research Institute of Television (Moskovskiy NI televizionnyy institut).
251. Tomsk Institute of Automatic Control Systems and Radioelectronics (Tomskiy institut avtomatizirovannykh sistem upravleniya i radioelektroniki).
299. Institute of Electronics, AN BSSR (Institut elektroniki AN BSSR).
303. L'vov Branch of Mathematical Physics of the Institute of Mathematics, AN UkrSSR (L'vovskiy filial matematicheskoy fiziki Instituta matematiki AN UkrSSR).
311. All Union Scientific Research Institute of Mineral Resources, Moscow (VNII mineral'nogo syr'ya).
327. Novosibirsk Electrotechnical Institute (Novosibirskiy elektrotekhnicheskiy institut).
334. Scientific Research Institute of Applied Physical Problems at Belorussian State University (NII prikladnykh fizicheskikh problem pri Belorusskom GU).
343. North Caucasus Scientific Center of Higher Education (Severo-Kavkazskiy tsentr vysshey shkoly).
350. Institute of Applied Geophysics, AN SSSR (Institut prikladnoy geofiziki AN SSSR).
376. Kalinin State University (Kalininskiy GU).
385. Chernovtsy Department of Material Science of the Institute of Semiconductors, AN UkrSSR (Chernovitskoye otdeleniye materialovedeniya Instituta poluprovodnikov AN UkrSSR).
386. Leningrad Hydrometeorological Institute (Leningradskiy gidrometeorologicheskiy institut).
395. Scientific Research Institute of Introscopy (NII introscopii).
396. "Optika" Special Design Bureau for Scientific Instrument Manufacture, Siberian Branch, AN SSSR (Spetsial'noye konstruktorskoye byuro nauchnogo priborostroyeniya "Optika" SOAN).
397. Smolensk Branch of the Moscow Power Engineering Institute (Smolenskiy filial Moskovskogo energeticheskogo instituta).
398. Tyumen' State University (Tyumenskiy GU).
399. Special Astrophysical Observatory (Spetsial'naya astrofizicheskaya observatoriya).
400. All Union Scientific Research Institute of Electromechanics, Moscow (VNII elektromekhaniki).
401. Khabarovsk Polytechnic Institute (Khabarovskiy politekhnicheskiy institut).

VII. AUTHOR INDEX

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